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ABSTRACT

This monograph originated out of a concern that the development of the Doctor of Arts (DA) programs might founder on the insistence that they be of equivalent stature to the Ph.D. Some attempts at defining the DA justify this concern, for they vary so little from the Ph.D. pattern that it is difficult to determine whether university departments generally constitute an appropriate vehicle for developing a degree for college teachers. Observations of departments indicate that they are knowledge- or discipline-oriented rather than teacher-oriented. The very nature of the departmental organization savors more of research than of undergraduate education. Thus, this monograph attempts a statement of the criteria for a college teaching degree without regard to its equivalence to a Ph.D. (Author)

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BLUEPRINT FOR CHANGE: DOCTORAL PROGRAMS FOR COLLEGE TEACHERS

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BY: **PAUL L. DRESSEL**

AND FRANCES H. DELISLE

UBLISHED BY:
THE AMERICAN
COLLEGE TESTING
PROGRAM

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PREFACE

This monograph originated out of a concern of the senior author that the development of the Doctor of Arts (DA) programs might founder on the insistence that they be of equivalent stature to the PhD. Some attempts at defining the DA justify this concern, for they vary so little from the PhD pattern that it is difficult to determine whether any new vision was operative. Indeed, one may wonder whether university departments generally constitute an appropriate vehicle for developing a degree for college teachers. Our observations of departments indicate that they are knowledge- or discipline-oriented rather than teacher-oriented. The very nature of the departmental organization savors more of research than of undergraduate education. Thus, this monograph attempts a statement of the criteria for a college teaching degree without regard to its equivalence to a PhD.

Dr. E. Alden Dunham of the Carnegie Corporation, to whom some such remarks were made, suggested that these concerns and views deserved dissemination. Dr. Dunham arranged a meeting in Houston, Texas, in which issues concerned with a degree for college teachers were discussed at some length. Those present included: Donald S. Dean, Department of Biology, Baldwin-Wallace College; Paul L. Dressel, Assistant Provost for Institutional Research, Michigan State University; E. Alden Dunham, Executive Associate, Carnegie Corporation of New York; Kenneth E. Eble, Director, Project to Improve College Teaching and the Committee on Evaluation, University of Utah; Ann M. Heiss, Associate Research Educator, Center for Research and Development in Higher Education, University of California–Berkeley; Harold Hodgkinson, Associate Research Educator, Center for Research and Development in Higher Education, University of California–Berkeley; Erwin R. Steinberg, College of Humanities and Social Science, Carnegie-Mellon University.

Reactions were also obtained from Joseph Axelrod, Professor of Humanities and Curriculum Education, San Francisco State College; and Stanford C. Ericksen, Director, Center for Research on Learning and Teaching, University of Michigan, who were unable to attend the meeting. Following this discussion, an outline was prepared and circulated to those named above. Some consideration was given to an edited publication containing chapters written by various authors. After reflection, I concluded that this would not be advisable because of strong differences of opinion on a number of points. Prior to departure for visits to a number of universities in England, I prevailed upon my associate, Dr. Frances H. DeLisle, to take responsibility for a review of the literature and preparation of rough drafts of the chapters. Upon my return, we edited and rewrote to obtain a rough draft to circulate to the original group of discussants in Houston. Reactions and comments received were helpful in preparing the final edition.

Dr. Dunham provided us with names of persons in the several universities receiving Carnegie grants for development of a DA program. We requested information and received responses from 11 out of 12 of these whose programs and associated materials have been very helpful in providing the examples and illustrations for Chapters 2, 3, 4, 5, and 7, and Appendixes A and B. We wish to express our appreciation to the American Psychological Association and ERIC Clearinghouse on Higher Education, in addition to Dr. Frank W. Finger for use of his seminar, "Professional Problems," for illustrative material in Chapter 3. The study done by Dr. Ralph D. Norman added a significant dimension by presenting and clarifying some views about the need for and nature of the DA. We are grateful to Finger, Norman, and to the several Carnegie universities for their assistance and willingness to share their work with us in the preparation of this monograph.

Paul L. Dressel

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An Introduction

DIVERSITY IN THE DOCTORATE: THE DEMAND FOR THE "DA"

Fred F. Harcleroad

Variety in doctoral degrees in the United States began long ago. The Harvard Graduate Department, established in 1872, offered two different doctoral degrees, the Doctor of Philosophy (PhD) and the Doctor of Science (SD).[1] The Doctor of Science degree was for scientific students and the PhD was primarily for students in the humanities and the social sciences. Thus, 4 years before Gilman actually opened Johns Hopkins University following the German university model, Harvard had established the principle of multiple doctoral degrees.

In recent decades the rapid expansion of graduate education to meet the increasing needs for doctoral-trained persons has led to renewed interest in the diversification of doctoral programs. For example, in 1969 the National Science Board submitted a report to the President entitled *Toward a Public Policy for Graduate Education in the Sciences.* The report states that "encouragement should be given to the development of multidisciplinary graduate programs at both the master's and doctoral level, adapted to the problems of a changing society, combining various of the natural, social and engineering sciences, and, when appropriate, leading to the award of new types of advanced professional degrees, designed for the preparation of practitioners rather than research-oriented specialists." Simultaneously with this demand for professionalized graduate education, the push for better college teaching (from students, citizens, commissions, and even from faculty) has led to a number of proposals for change in degrees in the graduate schools of arts and sciences. These range from plans to completely restructure the PhD to the development of new and different doctorates.

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[1] Samuel Eliot Morison, *Three Centuries of Harvard, 1636-1936* (Cambridge, Mass.: Harvard University Press, 1936), pp. 334-35.

Changes of the type proposed are really a normal outgrowth of the continuing diversification which has been going on for a century–with a speed-up in intensity in the quarter century since 1945. By 1968 almost 100 different doctoral degrees appeared on the list contained in the American Council on Education's edition of *American Colleges and Universities.* Most of the variants of the doctorate had been developed by specialized professional fields. Current examples of this development are the Doctor of Business Administration (DBA), the Doctor of Criminology (DCrim), the Doctor of Public Health (DPH), and the Doctor of Forestry (DF). With the exception of the Doctor of Science degree, professional schools have developed most of the additional earned degrees. Several have been adapted from "honorary" degrees into "earned" degrees and, in some cases, perform both functions today.

An unpublished 1969 study of earned doctoral degrees offered by the 254 major colleges and universities in 1968-69 (excluding law, theology, medicine and dentistry) revealed the following patterns.[2] The institutions offered 27 differing doctoral degree programs (see Table 1). Many of the most prestigious graduate schools offered multiple degrees. The University of Indiana offered 8 different degrees. Harvard University and the University of California at Berkeley offered 7. Columbia University and the University of Southern California each offered 6. Eighteen universities offered either 4 or 5 doctorates including Yale, Johns Hopkins, and Michigan from the original members of the Association of American Universities. Ninety-five institutions offered 2 or 3 doctorates and 104 offered only 1. Two hundred eighteen of the institutions offered the PhD degree (see Table 2). The most frequently offered degrees, aside from the PhD, were DSc (13), DMA (21), DBA (21), EdD (105), DEngr (6), DPH (10), and DSW (8). The DFA was offered by Yale. The DSSc, offered by Syracuse University, has since been dropped after considerable success over approximately a quarter of a century. The Doctor of Arts degree had just come on the scene at this time. Carnegie-Mellon University offered the first programs for this degree and graduated its first four recipients in June 1969.[3]

Rapid developments of the Doctor of Arts degree since 1969 indicate that Carnegie-Mellon's innovation in introducing the degree struck a responsive

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[2] Fred F. Harcleroad and C. T. Molen, Jr., *Doctoral Programs: A Proposed Revision, 1969.*

[3] "The Doctor of Arts: A High Degree of Teaching Competence," *Carnegie Quarterly* 18 (Winter-Spring, 1970): 2.

TABLE 1

Doctoral Degrees Offered by 254 Graduate Institutions (Excluding Law, Theology, Medicine, and Dentistry)

DArch	Doctor of Architecture
DA	Doctor of Arts
DBA	Doctor of Business Administration
DCS	Doctor of Computer Science
DCrim	Doctor of Criminology
DEd or EdD	Doctor of Education
DEngr	Doctor of Engineering
DEngrSc	Doctor of Engineering Science
DFA	Doctor of Fine Arts
DF	Doctor of Forestry
DHS	Doctor of Health and Safety
DHL	Doctor of Hebrew Letters
DHS	Doctor of Hebrew Studies
DLS	Doctor of Library Science
DML	Doctor of Modern Languages
DMus	Doctor of Music
DMusEd	Doctor of Music Education
DMA	Doctor of Musical Arts
DNSc	Doctor of Nursing Science
PhD	Doctor of Philosophy
DPE	Doctor of Physical Education
DPA	Doctor of Public Administration
DPH	Doctor of Public Health
DRE	Doctor of Recreation Education
DSc	Doctor of Science
DSS	Doctor of Social Science
DSW	Doctor of Social Work

chord and, for the world of academe, it has spread like wildfire. Probably, the best data on this subject have been secured and distributed informally by Robert Koenker, Dean of the Graduate School at Ball State University. His first survey of the status of the Doctor of Arts, in February 1970, went to 306 graduate deans and 267 responded. He found that in March of 1970 3 universities were offering the degree; 4 planned to initiate it, possibly in

TABLE 2

Number of the 254 Graduate Institutions Offering Each Doctoral Degree (Excluding Law, Theology, Medicine, and Dentistry)

Doctoral Degrees Offered	Number of Institutions Offering Each Doctoral Degree
Doctor of Architecture (DArch)	1
Doctor of Arts (DA)	1
Doctor of Business Administration (DBA)	21
Doctor of Computer Science (DCS)	1
Doctor of Criminology (DCrim)	1
Doctor of Education (EdD)	105
Doctor of Engineering (DEngr)	6
Doctor of Engineering Science (DEngrSc)	3
Doctor of Fine Arts (DFA)	1
Doctor of Forestry (DF)	1
Doctor of Health and Safety (DHS)	1
Doctor of Hebrew Letters (DHL)	3
Doctor of Hebrew Studies (DHS)	1
Doctor of Library Science (DLS)	2
Doctor of Modern Languages (DML)	1
Doctor of Music (DMus)	3
Doctor of Music Education (DMusEd)	2
Doctor of Musical Arts (DMA)	21
Doctor of Nursing Science (DNSc)	2
Doctor of Philosophy (PhD)	218
Doctor of Physical Education (DPE)	2
Doctor of Public Administration (DPA)	5
Doctor of Public Health (DPH)	10
Doctor of Recreation Education (DRE)	1
Doctor of Science (DSc)	13
Doctor of Social Science (DSS)	1
Doctor of Social Work (DSW)	8

1970, 10 in 1971, 6 in 1972, and 7 without a definite date. Forty-six additional institutions were seriously studying it, making a total of 76 offering, planning or studying the degree. He updated this first study in January 1971, based on additional information received in the interim. Less than a year later 7 universities were awarding the Doctor of Arts in a total of

12 fields: biology, economics, English, fine arts (including painting and sculpture), history, humanities, life sciences, mathematics, modern European languages, music, physical education and political science. At this time also, 16 additional universities reported plans for DA programs in the fall of 1971, 10 in 1972 or at an unplanned date, and 45 were studying the possibility–a total of 78.

In November of 1971 Dean Koenker reported a further study, as of October 1971, based on responses from 272 graduate deans. By this date 15 institutions reported at least one approved Doctor of Arts degree program actually being offered. Fields of study had expanded from 12 to 23 and included agricultural economics, botany, chemistry, classics, French studies, geography, Germanics, literature, psychology, Slavic languages, and zoology, with one university planning to add physics and Spanish in 1972. The 15 universities and their major fields were as follows:

1. *Ball State University–music (1971), possibly science and social science in 1973
2. *Carnegie-Mellon University–mathematics (1967), English (1967), history (1967), fine arts–music, painting, sculpture (1967)
3. *Claremont Graduate School–botany (1971), French studies (1971), government (1971), humanities–music, art, and literature (1972), history (1972)
4. *Idaho State University–English (1971), mathematics (1971), biology (1971), government (1971)
5. *Lehigh University–economics (1970), government (1970), psychology (1970)
6. Middle Tennessee State University–English (1970), history (1970), physical education (1970)
7. Ohio State University–Slavic languages (1971), agricultural economics (1971), classics (1971), art (1971), economics (1971)
8. *State University of New York at Albany–economics (1971), English (1971), physics (1972), Spanish (1972), literature (1972), others later
9. *University of Michigan–English (1971)
10. University of Mississippi–English (1970), music (1970), political science (1971), chemistry (1971), history (1971?)
11. University of North Dakota–history (1969), biology (1970)
12. University of Northern Colorado–botany (1970), chemistry (1970), geography (1970), history (1970), mathematics (1970), physics (1970), zoology (1970)

13. University of Oregon–English (1969) (not typical DA degree)
14. University of the Pacific–English (1971)
15. *University of Washington–Germanics (1970)

Eight of the above 15 reporting institutions are asterisked to indicate that they had been, or are, recipients of grants from the Carnegie Corporation of New York to support their Doctor of Arts programs in varying amounts. In addition, 5 other institutions which did not respond to Dean Koenker's survey or were in the "later-planning" category have received Carnegie grants and are or will be definitely offering the degree. They are (1) Brown University, (2) Dartmouth College, (3) Massachusetts Institute of Technology, (4) Stephen F. Austin State University, and (5) Washington State University. Altogether, this makes a total of 20 universities offering the DA at the present time. As will be shown later, a twenty-first must be added, the University of Illinois at Urbana. Thirteen have been or are supported by Carnegie and 8 in other ways without Foundation assistance: Middle Tennessee State University (where sizable funds had been raised by community support for the program), Ohio State University, and the state universities of Mississippi, North Dakota, Northern Colorado and Oregon (an atypical 2-year doctorate) and the University of the Pacific.

Several other developments indicate the powerful social thrust behind the rapid Doctor of Arts development. First, in May 1971, the United States Office of Education allocated 24 National Defense Graduate Fellowships to four institutions for award to Doctor of Arts degree candidates. Claremont University Center, the University of Michigan and Carnegie-Mellon University have previously been mentioned. The twenty-first university offering the degree, the University of Illinois at Urbana, was the fourth. In addition, Claremont University Center had added another field, linguistics.

Second, both the Council of Graduate Schools and the American Association of State Colleges and Universities have recommended, in principle, the establishment of Doctor of Arts degree programs with suggested guidelines for use in developing them. A revised statement has been prepared jointly by committees of the two associations (in 1971) and provides an evolving statement of principles on the following topics: (1) the rationale for the degree, (2) institutional qualifications, (3) characteristics of teaching scholars, (4) control and organization, (5) general requirements, (6) academic content, (7) professional components and the internship, and (8) research components. The truly unique materials in both the original and revised statements deal with professional requirements and research requirements. These statements are so significant that they are quoted here in full:

> *Professional Components and the Internship*
>
> The Doctor of Arts degree is based upon the premise that teaching competence for the beginner can be improved through professional study and through carefully supervised teaching experiences. These should include full responsibility for teaching courses, the mentorship of experienced professors, and other experiences including courses and/or seminars in the structure and problems of higher education, as well as present day social issues affecting higher education, which can and will enhance the preparation of the effective teaching scholar. Such experiences and mentorship are characteristically evident in strong universities, academic departments, and professional schools of education.
>
> *Actual experience in teaching is a sine qua non.* To achieve this, the candidate for the degree must have structured teaching responsibilities in which he proceeds from simple tasks and limited responsibilities to full, responsible classroom teaching under the careful supervision of members of the graduate faculty. The internship is essential to the Doctor of Arts. The student's teaching experience should include at least one semester of full-time teaching in a regular collegiate course. Teaching more than one course is preferable and exemplifies high-quality programs.
>
> An internship on the local campus is acceptable but an externship in either a 2- or 4-year college is preferred. Routine graduate teaching assistantships which do not provide careful supervision and mentorship by specifically assigned graduate faculty members are not acceptable. High quality requires the graduate school to assume specific supervisory, evaluative, and instructional responsibilities in the "art and craft" of teaching. The graduate school must guard against exploitation of the prospective teacher (intern or extern) as a source of inexpensive instruction for its own undergraduate college.
>
> *Research Components*
>
> Another primary differential between the Doctor of Arts and the PhD is the purpose and scope of research components in the respective programs. *Graduate study properly assumes a strong research component.* The Doctor of Arts degree must provide for the development of research skills so that the teaching scholar can maintain the quality of his own scholarship and can utilize the results of research in the classroom. However, required research may have a different focus and intensity than for the PhD, which frequently points toward a dissertation and toward the later discovery of new knowledge by the research specialist.
>
> Skill in research for recipients of the Doctor of Arts points toward use of research to enhance scholarly knowledge and classroom applications in the dissemination of knowledge. The student must through graduate study develop skilled capacity to read, understand, and apply disciplinary research for the benefit of students. Remedial work and deficiency course study are acceptable only as such, and undergraduate course study as a *substantial* part of formal course requirements should be avoided in meeting candidacy requirements.

The formal research dissertation or project may take several acceptable forms. The evaluation and synthesis of academic or disciplinary knowledge, comparative studies, creative intellectual projects, expository dissertations, or significant research in teaching problems and the organization of new concepts of course work are applicable. The evaluation and synthesis of materials and academic content that may be potentially valuable in college teaching but which have not yet been reviewed is also acceptable. Such research or independent investigation should be closely related to academic subject matter and demonstrate the scholar's mastery of *academic content and research skills* as attributes of effective teaching. The internship is not viewed as an acceptable substitute for an independent research project for the degree.

Perhaps an illustration from the past can dramatize the importance of these sections. This author served for several years in the late 1950s on a joint committee on the Improvement of College Teaching of the California State Colleges and the University of California. At that time the Dean of Arts and Sciences on one major University of California campus, and a member of the committee, attempted to obtain faculty approval to offer, himself, a noncredit 2 hour per week seminar on college teaching which doctoral candidates might elect to take. The faculty refused even to approve such a noble attempt at a personal teaching overload. Soon thereafter the committee gave up its efforts of several years and disbanded. Thus, the statement of the Council of Graduate Schools and the American Association of State Colleges and Universities represents major changes in attitudes which are light years beyond the 1950s and even 1965.

A final example may even further emphasize this changing point of view. In March 1972, Harold Hodgkinson of the Center for Research and Development in Higher Education at the University of California at Berkeley reported the results of a poll of members of the American Association for Higher Education on a number of key issues. One question related to the Doctor of Arts degree. Almost 60% (840) of those reporting (1,440) indicated that the DA "should become the predominant degree for those planning on becoming college teachers," rather than a "minority" degree to the PhD.

As Alvin Proctor, Chairman of the Committee on the Preparation of College Teachers of the Association of Graduate Schools, points out in the preface of the committee's statement, "the Doctor of Arts degree is a fait accompli . . . ." In June 1970, Carnegie-Mellon graduated four persons with the degree: a mathematician who began teaching at Williams College, and three historians, all with a number of positions offered to them. One accepted a position at Sacramento State College and the other two refused teaching appointments to stay at the university to develop learning materials for fifth graders and slow learners. Three with dissertations still to complete accepted teaching appointments, including one department chairmanship.[4] At the University of Northern Colorado 20 persons had completed the DA degree by March 1972: 12 in mathematics, 5 in chemistry, and 3 in biological science or botany. All returned to or were appointed to appropriate teaching positions, such as assistant professorships at Washburn University, Kearney State College, Northern State College (in Aberdeen, S.D.), or South Dakota State University; or a department chairmanship at Rochester (Minnesota) State Junior College. Edwin Fenton, professor of history and head of the Education Center at Carnegie-Mellon (the unit offering the professional courses and supervising the internships), is quoted as saying: "I'd be willing to take our first ten D.A.'s in history and in ten years' time match them on rank in university, salary, and publication record against any ten consecutive Ph.D.'s in history from any American university, including Harvard."[5]

Apparently Doctor of Arts programs are attractive to doctoral students also. In the spring of 1970 Carnegie-Mellon reported 89 degree candidates in five fields.[6] In November 1971, the Middle Tennessee University reported 51 students in three fields, with 1 expecting to graduate in June 1972. Dean Koenker's study reports great interest in the degree by students at those universities offering the degree and some interest even at institutions only considering it.

Obviously, the Doctor of Arts developments from 1968 to 1972 represent the most rapid move toward diversification in doctoral degrees in recent history. In sum, it may be the most significant step toward improving college teaching in a century and may well be one of the great historical contributions of higher education in the United States. The American College Testing Program has an abiding concern in college instructional and guidance practices. For this reason, we are pleased to provide the following very complete and detailed analysis of the potential and promise of the Doctor of Arts degree.

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[4] Carnegie Quarterly, op. cit., p. 3.

[5] Ibid.

[6] Ibid., p. 2.

Chapter 1

THE PROBLEM

Concern about the poor quality of undergraduate teaching is perennial, but in the last decade there has been unusually widespread and vehement complaint by students, by administrators, and by the public generally that the professoriate gives inadequate attention to teaching and even demonstrates indifference to students and their complaints. Professors, too, have expressed concerns that many of their colleagues, in their increasing preoccupation with graduate education, research, consultation, professional advancement, and involvement in governance, have ignored their responsibility to the undergraduate. The PhD, with its traditional emphasis on research, has been damned as the root of the difficulty, and alteration of PhD requirements or the introduction of a new degree (the Doctor of Arts) devoted to the training of college teachers has been proposed. Others, who have carefully considered the problem, doubt that minor tinkering with the PhD or even the introduction of a new degree will improve the situation unless based upon some prior definition of good teaching and of the attitudes, knowledge, and abilities required for the task.

Strong and widely contrasting views about the teaching task are readily identified. At one extreme there are those who believe that the first qualification of a teacher (and the only one for which graduate school should accept responsibility) is a combination of depth of knowledge of a discipline and demonstrated research competency in that discipline. In this view, teaching is primarily presentation and explication of course content, and the continued enthusiasm and continuing growth and renewal of the professor are assured by his involvement in research. Teaching skills are informally acquired through observation as a student in the classroom and by actual teaching experience. Formal attention to teaching methodology, to student motivation, or to the nature of the learning process is decried both as a waste of time and as suggestive of a "soft" approach to education in which coverage and mastery of course content are sacrificed by attempts to overcome the apathy and lack of ability of individuals who do not belong in college.

At the other extreme, there are professors who view the traditional disciplines, cognitive objectives, and standards enforced through examinations and grades not only as irrelevant but probably damaging to the character development or self-actualization of the individual which they perceive as the only significant goal of a college education. This individualistic, therapeutic view of education, based on T-groups, encounter groups, or on placing full responsibility on the student, either denies the validity of disciplinary knowledge and methodology or assumes that, once the student finds himself and sees the need for them, he can readily acquire them.

We reject both of these extremes as appropriate conceptions of undergraduate education upon which to base consideration of the responsibility of the graduate school in preparing college teachers. The first extreme places the discipline above the individual, is almost entirely historically oriented in its emphasis on what has been accomplished in the past, and is solely concerned with cognitive objectives. The second is preoccupied with affect and with the immediate here and now. We see a college teacher as primarily concerned about the future of individuals and their roles in society, but he must also deal with the present in helping the individual to form that future. He has a number of responsibilities as a planner and director of student learning, and he also performs a number of related functions. These responsibilities and functions are important determiners of the success of a college teacher as measured by the success of his students. If college teaching is to be regarded—as we believe it should be—as a profession, then the education of a college teacher should include experiences which will develop the necessary insights and competencies.

Effective teaching includes—

1. knowledge in depth of some body of content, its structure and methodologies, and ability to present it effectively to students;
2. sensitivity to student concerns and motivations and ability to interpret the teacher's field and its implications in such a way as to arouse student interest;
3. awareness of the relation of his discipline to other disciplines and to the current social scene, and acceptance of the obligation of communicating these relationships to students;

4. a clear conception of the objectives to be attained by students taking the teacher's courses and ability to plan experiences obviously relevant to the attainment of these objectives;
5. awareness of the learning process and of individual differences in interest and ability such that adaptations of assigned tasks and expectations can be made;
6. development of feedback procedures whereby the teacher and each of the students are kept informed as to progress;
7. definition of standards to be achieved by students and encouragement of students to accept, interpret, and assume some personal responsibility for their attainment;
8. sensitivity to the values and preconceptions implicit in the teacher's discipline and in the application of its principles and concepts to social and personal problems;
9. continuing scholarly activity which keeps the teacher abreast of new developments in his or her field;
10. awareness of the role which the teacher's course plays in the total undergraduate educational experience and acceptance of responsibility to help the student integrate his experiences in the course with other aspects of his education.

In addition to these explicitly teaching-related responsibilities and functions, college teachers serve as advisers and as members of committees which plan curriculums, define requirements, and specify scholarship standards. As an adviser, the teacher needs to interpret the significance of his own discipline in reference to the aspirations and plans of the individual student. He needs also to be aware of other disciplines which might strengthen the student's capability for various vocations. He should be able to explain the total college program to the student and help him to plan his own. As a participant in planning and governance activities, the teacher needs to have a personal philosophy of undergraduate education and some understanding of the history and the trends of American higher education. As a member of a profession, the teacher has certain rights and privileges; he also has certain ethical responsibilities to his students, to his colleagues, and to his institution.

A program to prepare college teachers should assess all of these competencies and provide experiences designed to foster them. Formal credit courses need not be provided on each point; candidates should not have precisely the same experiences; and there is no one pattern of college teaching or type of institution to which preparation should be gauged. The graduate school and the departments should be more flexible so that individuals can obtain an alternative to the specialized research-oriented PhD suitable for a professional career as a college teacher. For those universities which accept the obligation, nothing short of a reform of graduate education and of the attitudes of graduate faculty will suffice.

Reform in the Graduate School

A number of universities have attempted to provide programs for college teachers which do not involve a doctorate. One such program, the M. Phil. of Yale or the Candidate Degree of the University of Michigan and the University of Chicago, simply recognizes completion of all requirements except the dissertation. This is a gesture of small merit. It does nothing about preparation for teaching; it simply provides a recognized terminal point short of the completion of the doctoral dissertation. It is obviously not of the doctoral level, and will be treated as a degree distinctly inferior to a doctorate. The Master of Arts in Teaching offered at Tennessee and Kentucky is aimed, as the title indicates, specifically at teaching. It is a professional master's in the tradition of the MBA and MSW and will limit the career prospects of those individuals who have it as their highest degree.

The Educational Specialist also serves as a college teaching degree. This is a misuse of a degree originally devised for public school administrators and a few specialties, such as counseling, educational technology, etc. This usage has been primarily by institutions not offering a doctorate. The dubious nature of the degree, as well as its less than doctoral character, eliminate it as a solution to the problem of preparing college teachers.

The EdD could have been an appropriate designation for a degree specifically planned for college teaching; it is so used in a few universities. Unfortunately, this degree was originally introduced as a nonresearch degree for administrators and specialists, much as was the later EdS. In practice, the EdD research project was often undifferentiable from a PhD dissertation, but it could be much more practically oriented. The handicap of the EdD for our purpose is its widespread association with colleges or departments of education. At least one university has already abandoned the EdD for the DA in its program for college teaching.

The solution to the problem rests either on modification of the PhD or on the expansion of new degree programs usually designated as DA. Each approach has certain merits and certain weaknesses, depending upon the point of view accepted about college teaching.

Liberalization of the PhD

Those universities in which the faculty favors a disciplinary, graduate school-oriented undergraduate program will naturally see no reason to change the PhD. In many departments, the faculty will see its role as producing doctorates to be employed in strongly research- and graduate-oriented universities which will continue to demand the PhD as a qualification for their faculty. But some universities premit some flexibility in PhD requirements making it more relevant for a teaching career. Possibilities include:

1. Programs which permit a significant amount of coursework in supporting minors

2. Interdisciplinary programs, such as American Studies

3. Broad coverage of a discipline rather than narrow concentration of a subspecialty

4. Insistence that every PhD candidate (or at least those who expect to teach in a college or university) have an experience as a teaching assistant coupled with some supervision, and one or more seminars dealing with topics related to improvement of teaching

5. A broad construction of the dissertation requirement which permits research on problems of curriculum development or of teaching.

A combination of several of these deviations would go far to solve the problem. The willingness of a department to permit these departures in itself displays a concern for college teaching which is as important as the program. If a sufficient number of universities and departments accepted this broad construction, this might be the best solution, for issues about second-rate degrees would be overcome. However, we doubt that this approach will prove effective. Certainly it has not in the past, and we find no disposition on the part of most faculties to greatly alter past practices. The very modest changes from the PhD pattern permitted by departments which have initiated a DA confirm our doubts.

There are at least two other reasons why we doubt that reliance on a modified PhD will meet the need. First, in most departments that we have observed in a number of universities, the number of faculty members who are willing to entertain this prospect and to accept doctoral candidates with definite teaching orientations constitutes a minority. We foresee, therefore, a caste system—those students pursuing the "hard" research-oriented program, and those taking a "soft" approach. Graduate students sensing this will reasonably suspect bias against the teaching-oriented candidate and consequent difficulties with preliminary examinations and with approval of an atypical dissertation. Recommendations by a biased professor could also constitute a serious job hazard. Under such circumstances, too, the departure of a sympathetic professor might jeopardize doctoral candidates pursuing the teaching-oriented program. This latter point is no mere suspicion—we have seen it happen. The number of individuals willing to risk these perils will be restricted, and only one or two need to be trapped to destroy the teaching-oriented alternative. A simple bit of advice, if followed by departments and candidates, would eliminate most of the hazards: no department should provide, and no candidate should pursue in a department, a degree pattern which the majority of the department would refuse to consider for an appointment. The same advice holds with regard to the DA.

The second reason why we reject the liberalized but departmental-dominated PhD as an acceptable solution is that we see no prospect of sufficient flexibility to accommodate the manifold patterns of preparation appropriate for college teachers. There are many divisional, interdisciplinary, theme, or problem-oriented colleges which require faculty members grounded in several fields and capable of directing independent study, field work, and study of social problems. The typical departmental approach, even if liberalized to permit some crossing of disciplinary lines, will not meet these needs; rather, it produces teachers who are insensitive or antagonistic to these innovations and who strive to turn innovative programs back into more traditional channels. This again is not a mere suspicion. It has been documented in experimental programs in this country and in some of the new nondepartmental universities in England. We also doubt that many departments will accept a reduction in the disciplinary content requirements to accommodate two or three seminars and the teaching experience which are necessary to give adequate attention to the development of teaching skills. Accordingly, although we are favorably inclined toward some reform in PhD requirements, we do not see this approach as providing the professional degree for college teaching which is sorely needed.

The alternative is to develop a new degree (the DA) or a new and supra-departmental approach to the PhD. The rationale for this and the nature of such programs are developed in subsequent chapters. The perils of either approach are obvious. There is widespread opposition in faculties toward the introduction of a new degree, especially when resources are slim and external support for doctoral programs has been markedly reduced. There are those who hold strong convictions that any marked departure from the traditional PhD can only yield a second-rate degree. If the same designation (PhD) is used, then that degree is brought into disrepute; and if a new one (DA) is introduced, it will suffer by comparison and limit the career of an individual.

On this last point, it is worthy of note that the general practitioner in medicine has far less prestige than the specialist or the research-oriented professor in a medical school, but the general practitioner nevertheless meets a real need and is the first contact for most persons for diagnosis and treatment of their ailments. However, these points of opposition to major reform do suggest two topics which require treatment in this introductory chapter. One is the market for doctorates, particularly a teaching-oriented doctorate. The second is the type of institution which is best suited to meet the need.

Supply and Demand

Estimates of future doctoral supply and demand relationships for college teachers are influenced by such an array of unpredictable events that it is not surprising to find some lack of agreement from various sources. However, the present indications are that there is a surplus of PhDs trained in research-oriented programs and a shortage of appropriately trained college teachers to meet the needs of the community and junior colleges and the 4-year institutions.

Projections made in the past by Chancellor Allan Cartter of New York University have proven more accurate than those from other sources, although this may only be a result of unpredictable cutbacks in federal funding of higher education. Having correctly estimated in 1964 that existing shortages would only continue through the 1960s, after which a surplus would begin to accumulate in the early 1970s, Cartter now projects demands for college teachers to 1980. In that year, 24,550 new doctorates will be available for teaching, but there will only be 11,600 vacancies. The proportion of doctorates who go into teaching will probably decline from about 50%, the prevailing pattern of many years, to 20 or 30% by 1980. Even with these reduced figures, the excess of doctorates over established needs will be substantial (5, pp. 1-5).

Several other developments have implications for future doctorate planning to meet this imbalance between supply and demand. Many distinguished public and private universities became highly dependent on federal subsidies for their operating costs in the 1960s. The federal government, apparently also anticipating a surplus market, is removing the stimulation and reducing its support to graduat education. Meantime, demands of newly authorized doctorate institutions for additional programs continue, as do the requests of state colleges for authority to offer their first advanced degrees. The states are confronted with a planning problem of some magnitude to adjust institutional capabilities and aspirations in a declining market. Five serious interrelated problems engage them and the public and private institutions: (1) costs; (2) reducing anticipated surplus; (3) maintaining quality of the degree; (4) changing the character of some doctoral degree training; and (5) absorbing surplus doctorate holders (5, pp. 1-5).

Costs in graduate education are so greatly in excess of undergraduate education that budgetary constraints have forced the states to review their priorities among graduate, undergraduate, and professional education. A reduction in rate of entry to graduate education and a decrease in both freshman and graduate applications probably are indicative of a natural adjustment of the market to demands. Contrary trends, represented by increasing numbers of minority students completing college and by the thrust of the developing institutions, make it difficult to estimate university needs in relation to supply. An upturn in the economy and an increase in funding would markedly change the picture, for faculty members are always happy to increase their numbers and decrease their teaching loads. This being true, the costs of graduate education (or of education generally) depend on the availability of funds. Many state institutions carry on about the same activities and educate about the same number of students, whether their budget increases or decreases. No doubt quality suffers, but there are no good measures for that. In any case, a teaching-oriented doctorate should be producible at less cost than the research degree. Savings should come from two factors. First, in the sciences the prospective teachers might engage in a study involving a teaching-related problem which does not require special and expensive laboratory equipment. Second, the nature of the program (especially the culminating project) should permit the degree to be acquired within no more than 3 years after the master's. In so speeding up the completion of the program, the university costs are decreased, and the costs to the student are also decreased. This should make the degree attractive to the individual who desires a teaching career.

Ninety percent of all doctorate degrees in the United States are produced by fifty institutions; the remaining 10% are produced by the other 190 doctoral institutions (6). An analysis of the fifty top-rated institutions in the updated Cartter survey of the quality of graduate education leads to the conclusion that the capacity of these institutions may be more than adequate to fill the needs for traditionally-trained PhDs in the next decade. We ought to concentrate our doctoral programs in a limited number of institutions and permit no further expansion in these or other institutions except in areas of PhD shortages. Serious consideration should be given to the elimination of many weak doctoral programs of dubious quality which were developed in the period of rapid expansion in recent years. Few of these are financed at adequate levels, and many are unsupported by library facilities and other necessary adjuncts to a quality program (12, pp. 7-8).

About one-fourth of the current graduate programs and resources should be directed to the training of college teachers, according to Cartter's estimates that 20 to 30% of doctoral candidates will enter college teaching. Teaching as a profession for a doctorate may then become accepted, valued, and rewarded for its contribution to the improvement of undergraduate and junior college education. Consideration of a change in emphasis in doctoral education should engage both top-rated institutions and developing universities as they plan to meet the needs of the 1970s and beyond.

Whose Responsibility?

Some universities have already responded to the criticisms of college teaching by establishing programs designed to give novices some training in the skills of college teaching. An extensive survey attempted to discover and analyze specific features which characterize successful programs of recruitment and training (10). Approximately 450 graduate institutions were identified as offering such programs in 1967. About 80% were directed toward students working for the PhD degree. Almost half of the institutions publish no descriptions of the procedures they plan to use. Reports from the remainder provide little evidence of carefully designed, sequential educational experiences.

The most commonly reported activity is the teaching assistantship used by 75% as the primary device for the preparation of future college teachers. About half of the assistantships are described as providing the opportunity for teaching under supervision. Other studies report, however, that less than half of the teaching assistants receive systematic guidance from a senior member of the faculty. Moreover, in half of the fifty institutions which produce 90% of the PhDs each year, programs for teaching assistants have remained substantially unchanged for 10 years or more. In the same period, undergraduate enrollments increased dramatically, and graduate students taught more lower division classes. Thus faculty apathy, inertia, and conservatism, combined with general lack of support and recognition for the teaching function, has seriously compromised the undergraduate programs in some institutions and departments (6, p. 292).

Most training programs are administered entirely by the academic departments. Hence, essentially all the activities are controlled by and limited to the specific disciplines. Although dedication of a few faculty members and administrative support may strengthen and facilitate such a program, the primary orientation of the departmental faculty to subject matter content and scholarly activities results in the assignment of a low priority to the demanding, time-consuming, extra tasks related to the preparation of college teachers. Even in universities claiming the existence of attention to college teaching, no overall supervision of training is provided by about one in three departments. Individual faculty members supervise teaching assistants working on their courses, but faculty time is rarely assigned for these supervisory activities.

Many existing training programs provide pre-service orientation to explain administrative details and practices, college and university rules, assignments to sections, and distribution of texts and syllabi. These meetings range from a few hours to 2 weeks. The longer sessions attempt a systematic presentation of some problems in content and teaching which the novice will face. Seminars, institutes, and workshops (sometimes optional and with no credit) continue throughout the year in a few institutions.

Few training programs plan for increasing autonomy and for gradual assumption of more responsibilities for course planning and content, examination construction, and grade assignment in collaboration with a faculty supervisor. The most common concerns are with instructional procedures and the mechanics of planning for class sessions.

The areas of least attention relate to: (1) designing tests, developing criteria for selecting test items, analysis of results, and the problems of various philosophies of grading; (2) philosophy, history, and problems of higher education, the objectives of courses, the psychology of learning and motivation and their application to the classroom; and (3) consideration of other facets of the college teacher role.

Existing training programs vary widely among graduate institutions and among departments within the same institutions, but the majority share several serious deficiencies. There are no systematic attempts to develop objective criteria for evaluation, to clarify what the goals of the training programs should be, or to specify what college teachers do and what competencies are involved. Many of the programs have been originated by and dependent upon the enthusiasm of one individual. The programs in these institutions are grossly inadequate. Their conception of college teaching is too limited. The faculties are simply unwilling to face up to the responsibility of preparing college teachers.

Institutional aspirations. The aspirations of many regional universities (formerly colleges of education) include the expectation of continued growth and expansion in pursuit of patterns characterizing the top-rated institutions distinguished for research-oriented PhD programs. The thrust for these unrealistic expectations comes both from administrators and faculty. PhDs as faculty members in developing institutions seek the status and prestige of programs like those which they experienced as graduate students.

This thrust was found to characterize the 279 state colleges and regional universities investigated by Dunham. He found rapid change of function and tremendous growth to be their most striking characteristics. These institutions are moving at various rates from single-purpose, teacher-training institutions to multipurpose universities. The astounding growth in enrollments provides the impetus which propels these institutions toward the PhD model of the distinguished universities (3). This trend ignores the supply and demand implications for doctorates. In general, there is indifference to the mounting evidence of needs for newly designed programs for college teaching, although many states have imposed moratoriums on all new programs. Moreover, there appears to be callous disregard for the jeopardy in which all doctoral education is placed by adding unneeded new and marginal programs. Most of these institutions should not have been named universities, and they certainly should be assigned a role which severely limits their graduate program ventures. Serious resource limitations are the greatest barriers to further graduate development in these institutions, but state plans are also becoming more specific in defining their roles.

Almost all of the 750 institutions currently offering graduate work expect to expand in the near future and in traditional ways. Only a few–and these among the strongest graduate universities–have announced a deliberate cutback. Administrators responsible for planning graduate education are gravely concerned about the growth in numbers of institutions offering graduate programs and the speed with which these institutions expect to achieve comprehensive programs. They compete with themselves and with established institutions for faculty, student talent, and financial support. The consequences are already sufficiently critical in all areas of competition to suggest the wisdom of an enforced curtailment to avoid the collapse of hastily developed programs which lack faculty, students, and financial support (6).

Dunham, in 1970, built an impressive case for regional universities with demonstrated strength and an historic tradition of dedication to teaching as representing natural settings for development of doctoral programs of first-class status for college teaching (3, 4). This institutional purpose would have a much more appropriate sense of fitness than expansion to PhD programs. Dunham proposed that state colleges and regional universities take the lead in establishing a new and different doctoral degree specifically focusing on preparation of undergraduate college teachers. By cutting across all academic departments and responding to the needs of the 2-year and 4-year institutions, and by striking out in new directions instead of following in old problem-laden paths, a unique and more diversified role should emerge. Eventually the pluralism which characterizes the total society would be more accurately reflected in contrast to the homogeneity of the traditional research-oriented PhD programs (3, 4). The proposal is not without its hazards and has the potential for creating either a second-class degree or a degree conferred by a second-class institution (13). The Council of Graduate Schools has taken the position that new programs for college teaching will be accepted only if they are offered in institutions with strong departments having a reputation for academic excellence associated with the PhD.

Contacts as a consultant and evaluator on the campuses of the developing state colleges and universities raise doubts that their faculties will be willing or able to develop an innovative degree. Long-tenured faculty who accept the teacher emphasis lack the necessary scholarship and research productivity, and the recent acquisitions are hell-bent to develop a major research institution. As the experience in California with the state colleges shows, even a long-time and firm role definition only dampens these ambitions.

The opportunism shown by these regional universities in the rapid development of the specialist degree also raises doubts about their capacity to plan a sound doctorate. Until the specialist degree was devised to provide an extension of graduate work into a second year, graduate programs in these institutions were restricted to a master's degree. Originally, the specialist degrees provided professional training beyond the master's and short of the doctor's degree for nonacademic educational specialists. The rapid growth in the number of institutions offering specialist degrees and in the range of emphases permitted resulted simply because this was the only route open to many institutions desiring to expand their graduate offerings. The extension of this conception of Teaching Specialist to all disciplines was, in a sense, a response to an obvious need, and perhaps justified by the view that community colleges and junior colleges are continuations of the public school systems (13). Nevertheless, this expansion was opportunistic, ill-advised, and usually poorly planned and controlled.

Many institutions offering the specialist degree in teaching seek, by adding a dissertation or an additional year, to create a doctoral program in college teaching. The relevance of such programs to college teaching is dubious. In many cases, the quality of faculty providing graduate courses in the academic disciplines is inadequate. Senior faculty members, long restricted to undergraduate work in former teachers colleges, are seldom qualified to introduce graduate work in their disciplines. The trend toward use of a specialist degree as a teaching degree or as a base for expansion to a doctor's degree should be resisted (2).

Our own view is that it is not realistic to expect that qualified regional universities can offer quality degrees for college teaching until after a number of distinguished universities have set the standards and promoted their acceptance.

We believe that the university has a major obligation to clarify its mission and purposes, to re-examine its goals and objectives, and to reorder its emphases and priorities. The university must demonstrate an openness and responsiveness to the continuous criticisms directed against college and university teaching. College is a major influence on the development of the student's character, and responsibility must be assumed for the quality and direction of this development. Even the central task of guiding the intellect cannot be well achieved unless there is some realization that it takes place within a broader developmental context (8). Preparation of college teachers who understand the influences which shape the attitudes, interests, and activities of college students is clearly a university responsibility. Moreover, such understanding can only be developed through closer articulation than usually prevails between graduate schools and 4-year colleges.

The changing structures of the disciplines, new approaches and emphases in organizing learning experiences, and a greatly expanded educational technology have implications for the planning of new degree programs for college teachers. University initiative and support are required to assure status and quality. The Council of Graduate Schools believes it imperative for acceptance that new programs with teaching emphases be offered in institutions already distinguished for their PhD programs (COGS, 1970). Facilities, equipment, and resources comparable to those available for the PhD, equally rigorous requirements under control of the subject matter faculty, and adequacy of staff and supporting resources (judged in relation to the special emphases of the new programs) are implied as pre-service responsibilities of the university (13). This view is not wholly shared by E. Alden Dunham, who is dubious that the major research universities will be able to meet the test of accepting the new degree on an equal basis with the PhD, although he agrees that the responsibility rests with them to join the cause (4). Some universities may feel that their role should be that of emphasizing research and preparing PhDs to staff the graduate and research programs of universities.

In universities which accept responsibility for training college teachers, we believe that the graduate school must affirm and extend its role of responsibility for college teacher preparation, working as vigorously for all-university recognition and support as it has traditionally done for research in the past. Departmental priorities are so entrenched that the departmental response will be inadequate and ephemeral. Only as changes in academic organization and structure permit program planning separately from the departmental PhD will it be possible to develop carefully designed doctoral programs for teaching careers. The objectives of these programs must reflect the full range of the tasks and responsibilities of the college teacher. The learning experiences provided should prepare for the various roles and their interrelationships. The result should be a professional college teacher who continues his career development through in-service activities in the employing institution. College teacher preparation, of course, will always be a joint responsibility of the preparing and employing institutions. The degree, whether research or teaching in emphasis, can only assure entry level competency. Systematic programs of seminars, workshops, and conferences for new and interested faculty members are needed to develop a sense of community, preparation for change, and increased understanding of their roles as college teachers in particular institutions.

Either teaching or research involves a lifelong commitment to advancing one's knowledge and competencies. In some respects the teaching task is more difficult. It requires acquiring and maintaining a broad base of knowledge, and it also requires learning how to interpret this to the student. The researcher can narrow his field of concern and focus his communication on his fellow researchers in this narrow field. As knowledge accumulates, the task of the college teacher in winnowing and sifting it and in developing appropriate curriculums, courses, and learning experiences becomes ever more difficult. Surely the challenge here is one which some, at least, of our best universities should be willing to accept.

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Chapter 2

KNOWLEDGE, SUBJECT MATTER, AND THE DISCIPLINES

Graduate programs, with few exceptions, are organized around academic disciplines. In most universities, this organization of knowledge is reinforced by an administrative organization in which the disciplinary-oriented department is the fundamental operating unit. This organization is especially relevant to the scholar and researcher educated in a particular discipline and engaged in research to extend the scope of that discipline. It is less relevant to professors with an applied bent or a public service orientation who attempt to understand and alleviate the problems of society. The disciplinary organization is not irrelevant to the undergraduate student, but it serves him less well than it does the professor. The undergraduate requires a curriculum with a structure based upon a selection and ordering of experiences which enable him to cope constructively with his role in society. Since most of our knowledge has accumulated within the disciplines, the undergraduate should know something about them. The knowledge introduced into the curriculum must surely be drawn from the disciplines, for the very existence of the disciplines is evidence of their utility and success in achieving understanding about man and the universe. The alternatives of basing a curriculum on subjective impressions, rumors, or common sense are obviously inappropriate. The disciplines constitute an essential resource for planning undergraduate education, but they must not be permitted to straitjacket it. Accordingly, programs for preparation of college teachers must not limit the candidate to the traditional departmental disciplinary pattern. This is the theme of this chapter, which is supported by some discussions of the nature and limitation of the disciplinary organization and by a consideration of some alternatives.

The Structure of a Discipline

A discipline develops from the rules of procedure which define its scope and modes of inquiry. Disciplines differ in the rules which they accept. Each has its own body of facts, concepts, and principles and its own modes of acquiring and verifying its knowledge. Each discipline has also a subject matter (objects of inquiry) which the practitioners of the discipline aim to investigate. This subject matter may be a natural phenomenon, a process, a material, a social institution, or other aspects of man's interests and concerns. A discipline has usually originated from an attempt to explain a phenomenon or improve a process, but in time the conceptual and the syntactical structures may move the focus and activities of its practitioners far from the reality experienced with unaided senses.

Geometry, as its name indicates, originated in attempts to measure areas on the surface of the earth. Its ramifications into multidimensional study and into various types of non-Euclidean geometries are logical extensions of the original concern, but little related to the observations or concerns of the ordinary citizen. Yet these extensions have yielded insights into space and the composition of matter which have been fundamental in scientific and technological progress. But mathematics as a discipline has no necessary reference to reality. It is a complete abstraction using an artificial symbolism which seeks to deduce all possible mutually consistent propositions based on a specified set of assumptions. It emphasizes precision in definition and rigor in reasoning.

Language as a discipline also investigates formal structures of symbols by which meanings are expressed but, although it may become abstract, it always refers to the real world. Physical science seeks for understanding of all matter-energy systems and does so by searching for general patterns of relationships among measurements. Biological science concentrates on living matter, whereas physical science, starting from the study of non-living nature, has gradually expanded to include both. Psychology's domain is the mind of living things, but it is divided by empirical and humanistic approaches. Attention to what nature has made of man makes psychology a natural science and emphasis on what man has made of himself makes it a social science.

Anthropology includes all aspects of the man-made world: languages, tools, law, manners, religion. Sociology is concerned with the causes, course of development, and effects of social behavior. Economics deals with the resolution of human wants in the face of scarcity of goods and services.

These brief characterizations indicate some distinctions among disciplines in terms of subject matter. The disciplines might also be differentiated by the competencies required of practitioners, the modes of inquiry used, or the kinds of knowledge sought. From the viewpoint of the scholar in a discipline, its relationship with other disciplines in these terms is probably of peripheral interest. For the student who wants to integrate and apply what he learns, these areas of distinction and overlapping may provide helpful insights. But perhaps more than anything else, the undergraduate needs to see the relations of knowledge and understand means of applying knowledge (regardless of the disciplinary source) to personal problems and human affairs so that he can use that knowledge and methodology to achieve meaning and order in his own life.

A bird, in coloration and in form, may be fit subject matter for an artist. Its flight or its life and habitat may inspire the poet or writer. It is obviously a biological organism worthy of studies by several specialties in that discipline. As an assemblage capable of flight, its physical characteristics have merited analysis by physical scientists. The chicken-egg controversy summarizes a major segment of philosophical thought. The social sciences have been developed for humans rather than for the birds, but the basic ideas of these disciplines can be applied.

A stone (a diamond) can be discussed from artistic, physical, chemical, geographical, geological, sociological, psychological, and economic points of view. The subject matter of the economist–how man satisfies his needs and wants in the face of scarcity in resources and services–can lead very easily into psychological and sociological issues. The ideal economic man never has and never will exist.

The disciplines fragment the reality both of people and of environment. Because of this, many liberal arts colleges have adopted a curriculum based on other approaches:

1. A broader divisional as contrasted with departmental basis for organizing courses and requirements

2. Themes, such as ecology at the University of Wisconsin-Green Bay, around which various groups of courses and emphases can be developed

3. Student interests or concerns with a great deal of individual flexibility

4. A partly vocational, partly natural affinity approach in which courses and collections of courses into programs are developed around study of a geographical area or nation, or a career prospect (such as in Britain, a scientist civil servant with background in science, economics, technology, and some philosophy and history).

The greatest hazard in organizing such approaches for undergraduate education is the lack of interested and qualified faculty members. One major continuing problem is the in-service education and induction into the program of the specialized graduate school product. These broad theme, problem, or policy oriented programs conducted on inter- or supra-disciplinary bases should be encouraged. A degree for college teaching should permit development of a doctoral program appropriate for teaching in these atypical undergraduate programs. From the knowledge, subject matter, disciplinary point of view, there are several more appropriate alternatives than the narrow, highly specialized study and research program encouraged by some departments and graduate professors. This latter program *may* be appropriate for an individual who remains in a graduate and research oriented university department; it is irrelevant in content and may even destroy the attitudes, interests, and sympathies needed for successful teaching in an undergraduate context.

The alternatives range from a broader approach to the discipline throughout the doctoral program (including the research) to a program based on a problem, an era, an idea, or a theme which draws upon several disciplines but is adequately encompassed by no one of them.

Single Discipline

Distinctive disciplines use different structures to investigate knowledge in their respective subject matter fields. Major differences exist among the disciplines as to the manner and extent to which each can verify its knowledge. The nature of evidence varies markedly. Each discipline has to determine the route by which to move from raw data to conclusions. The present knowledge in any discipline is incomplete and transitory. The disciplines which have yielded contemporary knowledge are resources to help students grasp degrees and kinds of validation that exist. The disciplines themselves may alter or disappear; new ones are gradually added. The college teacher who has not grasped this will see the discipline as an end in itself, and thereby lose his students and fail to educate them (2, p. 10).

Concentration in a single scholarly discipline should emphasize, therefore, mastery of the unique method of study and the characteristic habits of thought of an academic discipline rather than a body of isolated facts. This mastery promotes the development of ability to analyze problems, to make value judgments, and to arrive at conclusions. Some study in logically related fields is useful to reinforce these insights and abilities, either by comparison or contrast. A core of courses broadly covering the discipline and one or more advanced seminars covering all phases of current research in the discipline will maintain the desired overview for a college teacher. Individualized programs of concentration in a single discipline at the doctoral level can meet many individual needs in preparing for college teaching.

A program in English literature, for example, may include some of the works of Chaucer, Shakespeare, and Milton and selections from historic periods of English and American literature; core courses in bibliography and in rationale of literary study; a seminar study devoted to special problems and issues; and related study in other disciplines. A program might also ignore Chaucer, Shakespeare, and Milton to concentrate on more recent writings. This latter program would not be acceptable in many departments, a fact which indicates why an alternative to the departmental degree is needed.

This program pattern in a single discipline provides adequate preparation for undergraduate teaching if the learning experiences are broadly spread among the major subdivisions and related disciplines to increase the range of versatility and resourcefulness of the individual. Development of insight into literature as a record of human thought and a means of insight into human behavior must be no less important than the knowledge and appreciation of particular works and of a literary form. The more closely the program arrangement resembles an interdepartmental arrangement, with the various segments studied in an integrative, mutually reinforcing manner, the more fully it prepares for the disciplinary and cross-disciplinary subject matter roles and functions of the college teacher who is teaching undergraduate integrative studies or simply engaged with students who are simultaneously taking work in history, the sciences, and the social sciences and looking hopefully for ideas which interrelate and bring greater depth to the totality of their educational experience. Early involvement in problem solving approaches and methods of investigation related to teaching and curriculum would also prepare the individual for working with students involved in independent study.

Interdisciplinary or Divisional Concentrations

Sociologists, political scientists, psychologists, and biologists have separate disciplines, but are all concerned with human beings. The sociologist and the political scientist are concerned in distinctive ways with group behavior, whereas the psychologist and the biologist focus—again in distinctive ways—on individual behavior. Each contributes to the understanding and the resolution of social and personal problems, and only through integration of the insights contributed by these several disciplines which view a common subject matter–human organization and behavior–in distinctive ways will the undergraduate student achieve real insight into human behavior, or will humankind find the means to resolve the problems created by overpopulation, pollution, avarice, iniquity, and inequity.

A divisional, interdepartmental, or multidisciplinary subject matter organization offers opportunities for study in the fundamental techniques and historical aspects of several fields of learning which have a close intellectual relationship and reinforce each other. Choices and weighting of concentration areas permit the designing of coherent and unified programs to meet individual needs. Such arrangements are most often found–and perhaps most easily developed–in the social sciences, but similar programs are possible in the humanities and natural sciences.

Area studies or period studies, such as American Studies or Classical Studies, offer one approach. One discipline, such as history, may serve as a core. Work in three selected disciplines in arts and letters or two selected disciplines in arts and letters and one discipline from another division offers opportunities to pursue studies in related disciplines. The central issue here is to identify the central subject matter: a theme, a problem, an era, or a human condition which gives unity and depth.

Interdisciplinary programs in the natural sciences provide opportunities to distribute work among several disciplines, but the number of combinations which have relevance for the college teacher is somewhat more limited than is true in other less cumulative fields. Combinations in the broad field of biology focusing on man as a biological organism are directly relevant for those colleges in which the biological sciences are offered in a composite sequence. Genetics and ecology, which effectively cut across disciplines, are perhaps overspecialized for the undergraduate college but provide knowledge relevant to current interests and concerns of students. Biology can provide a good background for college teaching, but its scope also permits an irrelevant specialization. The physical sciences have been notably difficult to combine at the undergraduate level, although biochemistry, geophysics, biophysics, chemical physics, and astrophysics suggest that combinations are appropriate in understanding certain problems. Various combinations of science, history of science and technology, philosophy of science, and economics would permit increased insight into the impact of science and technology on modern society with attendant career implications.

The social sciences provide a number of alternatives for distributing the academic work among several disciplines. Urban studies, area studies, ethnic studies, behavioral sciences, police sciences, social psychology, political economy, and economic geography are indicative of both new and traditional combinations around which acceptable doctoral programs that have relevance for undergraduate education can be developed. For the college teacher, competency related to the contemporary problems of society is more likely to result from study of a broad field or group of related disciplines and of aspects of logically related, contributive, or supportive disciplines than by concentration in a single discipline. But, unless the interdepartmental or interdisciplinary doctoral program has a focus which interrelates and integrates the disciplines to achieve depth and rigor, this approach can lead to superficiality. The study of two or three disciplines at the master's level does not make a doctorate.

A problem approach to the organization of a graduate program permits increased flexibility in meeting individual student needs and institutional requirements in higher education, since it provides opportunities for disciplinary and cross-disciplinary mastery appropriate to the anticipated teaching field. Broad integrative and interdisciplinary approaches reflect the contemporary press in the professions to balance broad theoretical knowledge with its social application. Another interdisciplinary thrust blends the study of the human condition with the study of life in all the natural systems.

Problem area approaches, in addition to expediting disciplinary and cross-disciplinary expertise, should also reflect the characteristics of undergraduate programs in which prospective college teachers may teach. These include more flexible ways of organizing learning experiences in seminars, tutorials, field work, and independent study, and more options in curricular patterns based on individual interests and needs. The patterns include emphasis on one discipline, several disciplines, and on inter- or supra-disciplinary approaches applying the disciplines within the context of themes, problems, modes of inquiry, ecology, and urban studies. A problem approach based on a divisional or interdepartmental organization provides an appropriate background for undergraduate college teaching of broad integrated studies in general education. It is perhaps most appropriate for the faculty member who looks toward a career in a small liberal arts college or a program which is highly individualized, problem based, and non-departmental and non-disciplinary in structure.

Interfaces of the Disciplines

The term "interfaces of the disciplines" dramatizes the desirability of and possible gain in insight and power from looking at the points of contact of disciplines. Disciplines may share concepts, methodologies, interrelating or complementary characteristics, modes of inquiry, and evidence of proof. Whether studied integratively or sequentially, they provide opportunities to promote new insights, to perceive new relationships, and to arrive at more intellectually coherent ways of organizing learning experiences.

Visualization of the relations of geometrical figures in space suggest the possible nature of interfaces. Two "complete" disciplines, each representable as a cube, might have a common face. They might overlap and share a common space, or they might approach closely but not actually touch. The common area, volume, or the space between represents an "interface." Thus two of the three cases are actually interdisciplinary, while the third suggests the challenge that exploration of the intervening space could lead to a meaningful conjunction of two or more disciplines. Many of the examples already used in the previous section are interfaces of two or more disciplines: chemical physics, ecology, area studies, etc. Many of these interfaces have been found to be particularly productive for research, but they are not necessarily equally productive as preparation for college teaching. A doctorate recipient in chemical physics knows something of both disciplines, but if his orientation and his preparation have emphasized research, it may not fit him to teach either chemistry or physics at the undergraduate level.

The planning of a doctorate for college teaching in itself presents an interface problem: one or more teaching disciplines, and the discipline of pedagogy for the career teacher and faculty member. The challenge–as always with a new field, be it a discipline or a profession–is to find the concepts, problems, or task definitions which provide the unity to the career and to the preparation for it.

Problems of Sequence, Synthesis, and Depth

Alternatives to the single discipline doctoral program pose a number of difficulties. A *mosaic* of courses from several disciplines may be appropriate for a college teacher who must, in a small college, teach several rather than a single discipline. But this pattern suggests two or three master's degrees rather than a doctorate. The *interdisciplinary* approach implied by such terms as social science, biological science, humanities, or fine arts may founder on the fact that these broad groupings are but convenient collections of disciplines with some common elements rather than disciplines in their own right. Thus an interdisciplinary program threatens always to degenerate into a mosaic made up of unrelated and beginning level graduate offerings. As already noted, organizing concepts, themes, problems, or possibly modes of inquiry is required for organizational threads about which to weave a program which has sequential elements and leads to a synthesis. Without these threads, superficiality rather than depth is the inevitable result. Even when organizational principles are identified, the individual who would develop a broad interdisciplinary program may find it difficult to plan a program, since most graduate work is developed around existing departments and disciplines. And those faculty members capable of assisting the graduate student in developing a broader program may be so intimidated by concern about colleague disapproval that they refuse to do so. The solution lies in obtaining recognition that depth in scholarship is neither assured by nor is it solely the result of concentration in a single discipline.

The *theme* approach implies freedom to search large areas of knowledge which illuminate the theme. Intellectual or social issues with comprehensive implications, such as in urban and ethnic studies, police sciences, international relations, community service, environmental quality, and human ecology, can encompass and relate the conventional disciplines. Themes are investigated and tested for their relevance and intellectual coherence in the disciplines selected.

The particular contributions of several different disciplines to understanding and solving specific social *problems* represent another interdisciplinary and cross-cultural approach. Such problems are of sufficient complexity to require the concepts, principles, and skills of several fields of substantive knowledge for their resolution. Selection of the disciplines and their effective combination is determined by the context of the particular problem. Field work, special seminars, problem courses, and independent study may be more significant in such programs than the usual single discipline offerings already existing in the departments.

The *inquiry* interdisciplinary approach emphasizes drawing upon a number of broad disciplines to grasp their distinctive objectives, standards of proof, appropriate subject matters, and methods of conducting investigations. Experience in intellectual conceptual inquiry seeks clues to the nature of the concepts, the central preoccupations, and the functions by which the different disciplines operate. No single clue will be decisive, but a suitable combination will be (3, p. 124). Each broad discipline possesses a compelling rationale behind its particular conceptual inquiry and modes of study. Arts and letters, natural sciences, and social sciences constitute appropriate groups for such an approach. Study of their methods, common elements, and the variations clarifies subjects and problems on which they are brought to bear. Mastery and interrelationship of several modes of inquiry should contribute to their use in solving social problems. Such a program should be especially appropriate for the teacher who wishes to direct undergraduate independent study.

The *ecology* approach to interdisciplinary selection of subject matter disciplines is concerned with the total pattern of interrelationships between organisms and their environments. This emphasis may be combined with any broad interdisciplinary program for which it has implications.

The *urban studies* interdisciplinary approach to subject matter organization and selection involves both the theme and problems approaches, as well as inquiry and ecology. Relevant disciplines can be selected within the context of the vast array of urban problems under investigation. A core of multidisciplinary courses and seminars can provide the background required to analyze social problems, the process of social change, and change agents. Complex problems in the areas of race and ethnic minority problems, problems of housing and pollution in the urban environment, problems of poverty, education, and institutional change, and the social problems of discrimination and alienation require broad interdisciplinary efforts and community involvement. Field work, investigations, and independent study involve experiences of both nonacademic and academic nature and contacts with both professionals and nonprofessionals.

The knowledge and subject matter emphasis developed in such interdisciplinary programs should prepare prospective college teachers to teach undergraduate interdisciplinary courses and seminars. Such broad programs may naturally include field work and surely will require independent study and experiences which also prepare teachers for undergraduate programs which include such learning experiences. The existence of interdisciplinary problem-oriented courses in undergraduate programs and the extensive use of field work and independent study provide both a justification and unifying principle for the development of doctoral programs. Accordingly, in planning doctoral programs for teachers, more effort should be directed toward analysis of program objectives with a clearer focus on the competencies to be attained. Courses, seminars, independent study, scholarship and research, and internships should be integrated and arranged with theory and principles alternating with practice in their application, rather than as isolated independent theoretical experiences. Thus the subject matter and the educational experiences of the doctoral program provide a model of what the college teacher is expected to accomplish with undergraduates, as illustrated in the programs of some of the Carnegie-grant institutions.

Disciplinary Emphases of Programs in the Carnegie-Grant Institutions

Disciplinary courses and seminars in a major field and related areas with requirements for their distribution follow a variety of patterns and emphases in different departments of the Carnegie-grant institutions developing doctoral programs for the preparation of college teachers. Requirements are stated in both postbaccalaureate and postmaster's terms. They tend to be less prescriptive beyond the basic core courses of the first graduate year. Some programs use the formal content course predominantly with few seminars except for the research seminar. Other programs make use of problem- and issue-oriented interdisciplinary seminars. The availability of choices and options for both courses and seminars provides structure with flexibility. All programs are described as broadly arranged, but some are much more comprehensive than others.

Claremont Graduate School: 2 years of full-time academic study, consisting of interdisciplinary and multidisciplinary courses and seminars in the major discipline and related disciplines. Specific disciplines may require certain types of study, such as overseas, field work, or summer experience.

Dartmouth College: proposes a mode of individually designed experiences in which interdisciplinary study seeks to transcend national and generic boundaries among disciplines, to move toward comparative and synthetic studies, to create new fields of study that cut across national and generic lines, to build more complex syntheses of past and present by including history and hence the concurrent study of continuity and change, and to emphasize multi-lingual competencies and to create multi-lingual fields of study.

Idaho State University: completion of 3 years of postbaccalaureate (72 semester hours) or 2 years of postmaster's (42 hours) academic work. Biology requires no work outside the field. Mathematics encourages broad choices in mathematics and an unspecified amount of work in some field, such as the biological, behavioral, or managerial sciences. English requires a basic humanities component (24 hours) in combination with breadth in English (33-34 hours). The Government program represents an interdisciplinary approach to broad preparation in the social sciences. Courses in government, equivalent to a strong MA, in economics (9 hours), and in sociology (9 hours) are integrated through interdisciplinary classes (12 hours).

Lehigh University: courses and seminars are in the major discipline (30-36 semester hours), in the minor (18-24 hours) or bidisciplinary–for example, history and government. The major emphasis is where the least work was completed in the undergraduate program. The minor emphasis represents the strongest area of undergraduate preparation. The bidisciplinary major provides two disciplines about equally developed.

Massachusetts Institute of Technology: because of the small size of the program and its innovative nature, degree requirements in the academic disciplines are based on individual interests, career objectives, and requirements of the department of registration. The PhD degree is awarded through the student's department on recommendation of his interdepartmental faculty committee.

The University of Michigan: completion of the equivalent of a strong MA in English, a core of newly designed courses (15 credits) to integrate content and method, elective courses in English and cognate (27 credits) suitable for a broad humanities program outside the department or in a special area, such as Black Dialect and Literature.

Stephen F. Austin State University: a total of 80 to 90 semester hours, emphasis on broad arrangement and integration of interdepartmental work in courses and seminars involving team-teaching in the major field and across departmental lines (12-18 hours), arrangement of related courses in tandem in consecutive terms, use of themes, problems, topics, and the design of interdisciplinary courses around contemporary concerns, independent study.

State University of New York at Albany: academic courses and seminars total 60 semester hours. A core is required in each discipline, additional courses in the discipline broadly distributed, and a cognate is a matter of choice. Economics (44 hours, cognate 12-15 hours), English (32-38 hours, cognate 12-18 hours), and Physics (51 hours, cognate 9 hours).

Washington State University: completion of 34 semester hours of post-MS chemistry with a minimum of one graduate course in each of four areas of chemistry, 6 semester hours in chemistry laboratory courses, and related courses (12 hours) from other science fields or professional preparation for college teaching.

University of Washington: a total of 54 post-MA II credits–36 credits in interdepartmental courses and seminars in German language, literature and civilization with some newly designed to conform to this comprehensive approach; 18 credits in related areas, one of which can be for the professional preparation of teaching.

Research and Scholarly Experiences

The research and scholarly experiences of the prospective college teacher should usually be directed toward applied research and problem-solving approaches related to teaching and curriculum rather than to the discovery of new knowledge. The emphasis should be on those aspects of scholarship which will continue to be career preoccupations of college teachers in their own investigations and in their interpretation and application of research findings reported in the literature to the benefit of their own teaching. Such continuing concerns include: exploring new interdisciplinary relationships and alliances, integrative scholarly work in the development and revision of courses, research methodology for studies of instruction and curriculum problems, and the skills and proficiencies of examination writing and evaluation. Thus the research component of the doctoral program contributes directly to the development of insights and skills essential for a college teacher.

This interpretation of the research component will certainly not be acceptable in many universities and departments which refuse to admit significant variations from the traditional PhD research requirement. The problems and implications of this will be treated further in Chapter 5.

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Chapter 3

PROFESSIONAL KNOWLEDGE AND SKILLS

The professional training needed for effective performance of teaching roles and responsibilities includes knowledge about (1) human learning, (2) problems, characteristics, and aspirations of college students, (3) cognitive and affective objectives of undergraduate education, (4) educational philosophies, (5) background and development of American higher education, and (6) educational methodology and technology. This chapter suggests some of the specifics under each of these headings that should be included in preparation for college teaching. Some complementary functions and obligations are also discussed.

Human Learning

The process by which students master and use knowledge depends on learning, remembering, generalizing, thinking, problem solving, and similar cognitive processes. Learning theory, the processes of remembering and forgetting, and the conditions for transfer of learning are important to the teacher, but research shows that no one method of teaching invariably favors mastery and retention. Conditions vary among teachers, subject matter, and students so that teachers must continually ask themselves how what they are doing contributes to education and what learning principles are related to the methods of teaching they prefer (21). A number of concepts and principles must be considered: (1) motivation, because students learn best, if not solely, what they are interested in; (2) organization, because students learn when the learning fits some logical or personal framework; (3) principles and concepts presented in varying contexts to encourage mastery and retention through multiple associations; (4) feedback, contiguity, and active involvement; and (5) positive reinforcement with reward and encouragement (27).

In general, forgetting results basically from interference between associations in memory as a result of lack of continuing usage. Retention can be fortified by the meaningful circumstances under which the original learning takes place and by a sequential organization of learning which requires continuing use of what has already been studied (21).

Similarly, transfers of learning can be influenced by many factors. Among these are: (1) the similarity of the original learning and teaching to the eventual transfer situation; (2) adequate experience with the original task; (3) the variety of examples used when principles and concepts are taught; (4) identification of distinctive and important features of a task; (5) certainty that understanding took place before expecting transfer; and (6) establishment of an expectancy of transfer and reward for its manifestation (23).

Problems, Characteristics, and Aspirations of College Students

College teachers work predominantly with students in late adolescence and young adulthood whose developmental needs and contemporary concerns pose a changing backdrop to the scene in which learning takes place. As a student of human development, the prospective college teacher learns that anxiety, stress, and unrest have always characterized college and university students. These are normal characteristics of growth during a developmental stage marked by uncertainties, ambivalences, and paradoxes. But the conditions which account for the manifestations of discontent vary from one generation of college students to another. The need for study of student stresses and problems, their impact on student growth and development, and their implications for institutional and curricular reform must be ever present concerns of teachers (2).

The college classroom takes on new significance for the teacher who understands the developmental tasks to be achieved before the student can effectively progress toward attainment of his goals and those of the college. Among others, the student must: (1) acquire a positive and realistic understanding of his abilities; (2) grasp the structure and interrelationships of knowledge; (3) begin to form his own judgments; and (4) see the relevance of higher education to his own life and that of others (18).

Student development in the undergraduate years is a period of quests, during which the student needs some consistent personal contact with an adult professional who can serve as teacher, adviser, and friend. The most fundamental of the quests involves the search for identity and combines with a search for a new ethical system, for new ways of viewing reality, for new relationships with family, for resolving academic dilemmas, and for coping with discontinuities perceived in relationship to the college and society (26).

Cognitive and Affective Objectives of Undergraduate Education

The cognitive objectives of undergraduate education include intellectual development, accumulation of knowledge and factual information, acquisition of skills of critical thinking and problem solving. Affective objectives include modification or maturation of attitudes and values. Defining and interpreting these instructional objectives and modifying teaching practices as students develop represent one of the most significant professional tasks facing the college teacher. Clear behavioral objectives are difficult to define for most college-level courses, but without them each course stands alone and represents only another isolated set of facts and skills to be temporarily acquired and soon abandoned. The adjustment of instruction and of evaluation to include the more subtle objectives of motivation to learn, to engage in critical thinking, to make value judgments, to organize relevant information, and to define and solve problems is one of the more pressing and complex educational issues which teachers face (9).

It is no longer possible to take a narrow view of college education as the acquiring of academic knowledge and thus isolate cognitive growth from moral growth and the general maturation of the student. Examination of the nature of human personality forces the conclusion that cognitive growth separated from other aspects of growth is an illusion (18).

The act of judgment, which represents the ultimate expectation of liberal education, involves a composite of affect and cognition. Whatever a man knows, in the final analysis he makes his decision based upon values. He should be aware of the values in which he believes; for only then can he consciously appeal to them in making decisions. Affective and cognitive are inseparable in the end, and attempts to teach science, humanities, or social science without recognition of the value overtones is impossible.

College teachers should plan educational experiences to encourage value consciousness in a sequence of steps to include the student's awareness of his own values, his awareness of the values of others, and a knowledge of the variety of value systems in other societies. The final stage allows the student to reassess and possibly revise or restructure his personal values. Study and probable revision of the various reward systems of institutions may serve as a means for progressing through these steps (7).

Educational Philosophies

The curriculum in any institution depends on the educational philosophies of the faculty, administration, and constituencies lending support to institutional endeavors. The variety of philosophies permits the existence in most institutions of conflicting theories of education rather than a consistent formally stated basis for educational planning. Nevertheless, the composite of these opinions, beliefs, attitudes, judgments, and prejudices yields some compromise curriculum if not a distinctive educational philosophy. Individual professors continue to hold their own views and the students are exposed to them. Teachers need also to be aware of these differences as they instruct and advise their students (7, p. 32).

In an attempt to determine faculty opinions about the nature and purpose of the university, Heiss (16, pp. 32-34) developed three positions based on literature about the idea and mission of a university. The first position holds that knowledge is valued for its own sake, that the purpose of the university is to preserve, disseminate, and promote insights into knowledge to produce educated citizens to carry on rational inquiry in their respective communities. With this transcending purpose, the university remains detached and aloof from society. In a sample of 1,374 faculty members, about 14% subscribed to this position based on scholarship. This and other percentages might vary greatly with institutional patterns and types.

A second position contends that knowledge has both cosmopolitan and eclectic value and purposes. Knowledge is an end in itself, but it has instrumental value. The university may be detached, but it has a well-developed social conscience. The search for knowledge is the guiding force, but scholars in the university also help clarify needs and problems of society and suggest ways of resolving them. In the same sample of faculty members, about 81% selected both scholarship and service.

The third position holds that knowledge has both intrinsic and instrumental value, but the primary worth comes from investigation of the problems of society. The emphasis is on service and working with groups who need expert assistance. Less than 5% in the faculty sample selected the option of service.

Most colleges have representatives of all three positions, even though there is a dominant pattern. Educational and evaluation practices usually result from interaction of all three (7, p. 32). Prospective college teachers need to clarify their own personal philosophies of education as they develop formally stated objectives, develop appropriate educational experiences, and specify the evidence required for evaluation (7, p. 35).

Background of American Higher Education

To bring more understanding to their teaching roles and to their decision-making roles in university governance, college faculty members should be familiar with the history, issues, and trends in American higher education. Knowledge of the European backgrounds and the major developments in higher education in the United States contributes greatly to a teacher's insights, and will quickly demolish such myths as those that all students in an earlier era were thirsting for knowledge, that the departmental major has always been the heart of the undergraduate program, and that foreign language and physical education requirements are sanctioned by long tradition. Wiser decisions crucial to the welfare, progress, and quality of the college and university result through committee work and various advisory assignments when faculty members are informed about the background and history of the problems with which institutions have struggled for over 300 years. They grasp the necessity for continuous re-assessment of the following problems in new contexts: (1) curriculum content and organization; (2) the nature and purpose of higher education; (3) faculty rights and privileges; (4) optimum student-faculty relationships; (5) board of trustees-administration-faculty-student relationships; (6) faculty tenure and retirement; (7) academic freedom and its relation to higher education; (8) admissions; (9) promotion; (10) teaching and research; (11) evaluation of teaching; (12) student behavior, etc. (32, pp. 26, 27).

Preparation of college teachers should also include awareness of the full range of institutional types in American higher education. These different institutional models attract different types of students and pose different problems for their teachers. At one end of the spectrum is the community-junior college whose students come from all ability levels, with vocational aspirations ranging from unskilled tasks to the highest professions. Privately supported liberal arts colleges, often with strong religious affiliations, represent an entirely different milieu. Complex state and private universities present still other challenges to their faculties. Points of view regarding teaching formed in one type of institution may be so inconsistent with the demands of another as to render an inflexible teacher useless and ineffective. Opportunities should be available for the introduction of prospective college teachers to the environment they are likely to enter (25).

Educational Methodology and Technology

The college teacher, having completed the initial task of designing a course by establishing instructional objectives and selecting content, must decide on the methods most appropriate to the course objectives and his own abilities. He can choose from the standard instructional techniques of lecture, case study, discussion, or demonstration; he can try the more experimental approaches of role-playing, psychodrama, independent study, or tutorial arrangements. He may find some form of educational technology effective, but he will require specialized help in investigating this possibility. Any combination of these could result.

Research as summarized by McKeachie shows that:

1. lecture, discussion, case method, problem approach, group dynamics, and television patterns of instruction have proved about equally effective;

2. discussions and student-centered instructional techniques may prove more effective than teacher-dominated instruction for some students and for higher level cognitive goals or objectives in the affective domain (28).

The prospective college teacher, therefore, should be made aware throughout the program of preparation that there are many different ways of fostering learning. He may wish to experiment and determine which, for him, are more effective in reaching desired objectives. Should the teacher wish extensive student participation and more opportunities for students to formulate and express their own ideas, discussion groups and seminars are preferable to lectures. Differences in teachers and students may account for certain methods proving more appropriate than others, whether it be lectures or tutorial arrangements. The basic task is selection of the type of educational experience which will best help the student achieve his goals. And always this must be done with due regard to concurrent student experiences and the resources available. Educational methodology is only one aspect of a larger issue (6, pp. 160, 161).

Educational technology offers a wide range of electronic, mechanical, audio, and visual devices. Programmed materials developed through their use may provide an instructional and learning experience not otherwise available. Teachers need to learn how to develop these materials, study their impact on students' learning, and revise them as necessary. Educational technology does not replace the teacher, but redefines the role of teacher by focusing on the impact of a particular educational experience on the learning of the individual student (6, pp. 161, 162).

Since students learn mainly what they practice, the teaching method selected should give practice in the kinds of activities represented by the predetermined objectives. It should be clear that the mark of a skillful teacher is the range and flexibility of his repertoire. The prospective college teacher needs practice in all varieties of methodology during the pre-service preparation, doing all the kinds of things that college teachers do in their particular discipline (19, p. 19). Institutions should provide continuing opportunities through in-service programs and grants for research in the effective use of educational methodology and technology. Increased use of technology and programmed instruction in the future appears certain. Nevertheless, highly motivated students can learn under almost any circumstances; and, without motivation, they will not learn under ideal conditions. A great part of teaching is in providing motivation.

Complementary Functions

The college teacher engages in numerous professional activities and functions complementary to but interactive with student learning and instruction. Most college teachers advise and counsel students in curriculum and vocational planning; they contribute to institutional curriculum development and planning; and they further the interests and purposes of higher education and the profession through faculty organization, involvement in governance, and through committee and public service activities.

Curriculum and Vocational Advising

As advisers to students, college teachers must know and support the aims of undergraduate education and of the college. The goals of general and professional education must be clear. Undergraduate students typically have difficulty in choosing a major and in selecting courses which both satisfy requirements and meet their interests. These problems, important as they are, are relatively minor as compared with the student's difficulties in reworking his values, expanding his intellectual resources, and attaining a stable and mature identity.

Faculty advisers must maintain up-to-date knowledge of program regulations and course offerings and the rationale for them in order to provide accurate and complete information to guide the student in his decision making. In addition to being thoroughly familiar with the requirements and opportunities of their own disciplines, they should have similar knowledge of other disciplines and of interdisciplinary opportunities if they are to help students make use of the resources available.

Faculty advisers should be broadly informed about vocational opportunities open to students and about the interests and aptitudes required. More detailed information and the use of tests of aptitudes and interests will usually be provided by counselors. Experience in conducting interviews and the function of listening as well as responding will help the prospective teacher reconcile and effectively combine the teaching and advising roles.

Curriculum Planning

A college teacher should be prepared to assume a role in curriculum planning–a role which involves acceptance of responsibility for the total education of students. The curriculum should provide a series of interrelated and coherent educational experiences which stimulate and enable the student to become self-educating. This requires a philosophy and a grand design for the institution, but it also requires effective advising of the individual as he develops his own program within that design.

Prospective college teachers need some orientation to this task during their graduate training. Designing and teaching a single course or a sequence within a discipline is relevant but insufficient. An opportunity to view the total curriculum, its development, and its functioning from the viewpoint of both students and an institutional curriculum committee should also be provided.

Faculty Organization and Governance

College faculty members, as highly trained professionals, must be informed and involved in all aspects of the college as these influence its academic character. The faculty should have an organization which allows and encourages participation in all decisions that affect their work and welfare. Patterns vary greatly among institutions, and unionization may bring new ones, but any pattern must recognize the existence of administrative officers and a governing board. The atmosphere to be promoted is one of mutual trust and respect, recognizing that the quality of the institution's educational program is the ultimate concern in any decision. Mere preservation of departmental prerogatives or disciplinary requirements should not be permitted to influence decisions. Problems should be approached in a cooperative spirit to bring all resources to bear on their solution. Faculty morale is essential to institutional excellence; nothing contributes more to it than creative and responsible participation; and nothing destroys it as much as the isolation to a subordinate or subservient role (31, p. 47).

Most college teachers will serve on governance or advisory committees. In so doing they need to be aware of some of the responsibilities and pressures involved. Students are now pressing for a greater voice in the decision making, not solely for more personal control over their own lives and programs. The faculty generally is reluctant to release its almost complete control over curricular matters. Governing boards are increasingly concerned with budgetary problems, public criticisms of colleges, and student unrest. State-wide coordinating boards, accrediting agencies, and legislatures clearly believe that faculty members will not be responsive to the needs of the larger society unless constrained to do so. Faculty members view such controls as an invasion of their proper rights and responsibilities (24, pp. 136, 137). Adversary relationships tend to build up under these circumstances, even when collaborative associations are preferred. Academic and institutional governance through cooperation and shared responsibilities is still believed by many students of governance to be best for a college because of its potential for supporting "a community of scholars." The college teacher should be aware of these trends and pressures so that he can make his own decision rather than be co-opted by circumstance.

Service Activities

Service is a central characteristic of any profession. College teaching as a profession provides a service to society through education, but most colleges and universities also include more direct public services as major functions. Faculty members are expected to contribute to this function without always anticipating that they will be reimbursed for it. The graduate student in a university in which many of his professors engage in well-paid consultation activities may develop an erroneous conception of the service role—as indeed have some of his professors. Some public service is directly beneficial to the teaching function as well as to society. Professional responsibilities for public service should be defined in every college. Time should be allocated for it, and the service performance should be regularly evaluated. A distinction should be made between service activities entered into as an individual for personal satisfaction or remuneration and participation as a representative of the university. In view of increasing demands for relevance and the attention to social concerns implied by off-campus service experiences for students, prospective college teachers should understand this function and its relation to instruction.

Ethics and Obligations

The profession of college teaching has certain rights and assumes certain obligations. Much has been said about academic freedom, but all too little has been said about the obligations and the ethical standards of the profession. Academic freedom has too often been viewed as the prerogative of the faculty member, especially of the researcher, rather than a freedom, with concurrent obligations applicable to both students and faculty members. Leadership in the development of principles of academic freedom and ethical standards for both faculty and students belongs to the American Association of University Professors (12). The rationale rests upon the nature and role of colleges and universities in serving the common good through learning, teaching, research, and scholarship; and the fundamental necessity, in the exercise of these functions, for the preservation of the intellectual freedom of teaching, expression, research, and debate. All parts of the academic community are bound equally to accept the responsibility to exemplify and support these freedoms in the interests of reasoned inquiry. Maintaining at least minimal standards of academic freedom is not a matter of choice in an academic community, although institutional procedures may vary (17, p. 365).

The American Psychological Association established in 1963 ethical standards for practicing psychologists, and thereby reminded its members of their responsibilities to themselves, to the profession, and to the society they serve (3, 10). More recently, the Carnegie Commission on Higher Education has developed and proposed for general adoption a model bill of rights and responsibilities for all members of an institution of higher education. The rights and responsibilities of faculty, students, administrators, staff, and trustees are included. This is an important first step intended to rebuild a sense of community and to discourage and cope with disruption (29).

Academic Freedom (Students, Faculty)

Freedom to teach and freedom to learn are inseparable facets of academic freedom to be exercised responsibly by both faculty and students. The responsibility to secure and respect those conditions conducive to academic freedom is shared by all members of the academic community. Provisions for student freedom to learn include: (1) freedom of access to higher education; (2) classroom protection; (3) confidentiality of student records; (4) student affairs (freedom of association, of inquiry and expression, participation in institutional governance, and student publications); (5) off-campus freedom (exercise of rights of citizenship, institutional authority and civic penalties); and (6) procedural standards in disciplinary matters (standards of conduct expected, investigation of student conduct, status of student pending final action, and hearing committee procedures for due process) (17).

The most basic right of the student is freedom to learn. The professor in the classroom and in conference should encourage free discussion, inquiry, and expression. Student performance should be evaluated solely on an academic basis, not on criteria unrelated to academic standards. Students have the right to be protected in their freedom of expression against improper academic evaluation and against improper disclosure.

The student has the right of protection against invasion of his privacy by the revelation of personal information from records. Institutions should have a carefully developed policy as to what information should be in the student's permanent educational record and the conditions under which disclosure can be permitted. Academic and disciplinary records should be totally separate to minimize the risk of improper use. Conditions of access to each should be set forth in explicit policy statements.

College students are both citizens and members of an academic community. As citizens, they should enjoy the same freedom of speech, right to peaceful assembly, and right of petition that other citizens enjoy. As members of the academic community, they are subject to the obligations attendant upon that membership. Faculty members and administrative officials are obligated to see that institutional powers are not employed to inhibit such intellectual and personal development of students as might be promoted by the exercising of their citizenship rights.

The American Association of University Professors, the Association of American Colleges, and other organizations have subscribed to the following principles of academic freedom with correlative responsibilities for faculty:

> The teacher is entitled to full freedom in research and in the publication of the results, subject to the adequate performance of his other academic duties; but research for pecuniary return should be based upon an understanding with the authorities of the institution.
>
> The teacher is entitled to freedom in the classroom in discussing his subject, but he should be careful not to introduce into his teaching controversial matter which has no relation to his subject. Limitations of academic freedom because of religious or other aims of the institution should be clearly stated in writing at the time of the appointment.
>
> The college or university teacher is a citizen, a member of a learned profession, and an officer of an educational institution. When he speaks or writes as a citizen, he should be free from institutional censorship or discipline, but his special position in the community imposes special obligations. As a man of learning and an educational officer, he should remember that the public may judge his profession and his institution by his utterances. Hence he should at all times be accurate, should exercise appropriate restraint, should show respect for the opinions of others, and should make every effort to indicate that he is not an institutional spokesman.

Ethics

The AAUP Statement on Professional Ethics (1966) provides the general guidelines in these five major areas of a college teacher's obligations and responsibilities:

1. To himself and his discipline–special responsibilities placed upon him to seek and state the truth as he sees it; to improve his scholarly competence; to exercise critical self-discipline and judgment in its use; and to avoid conflict of interest.

2. To his students–encourages their free pursuit of learning; holds them to best scholarly standards of the discipline, respects the student as an individual and adheres to his own proper role as intellectual guide and counselor; fosters intellectual honesty; respects the confidential nature of the relationship; avoids exploitation; acknowledges significant assistance; and protects academic freedom.

3. To his colleagues–assumes his obligations stemming from membership in community of scholars; respects and defends free inquiry of associates; in exchange of criticism and ideas shows due respect for opinions of others; acknowledges academic debts and strives to be objective in professional judgment of colleagues; accepts his share of faculty responsibilities for governance of his institution.

4. To his institution–seeks to be an effective teacher and scholar; observes stated regulations of the institution provided they do not violate academic freedom; maintains right to criticize and seek revision; controls amount and character of outside work with due regard to institutional responsibilities; in case of an interruption or termination, he gives due notice of intention.

5. To his community–has the same rights and obligations of any other citizen; measures their urgency against his other obligations; speaks only for himself; promotes free inquiry and furthers public understanding of academic freedom (33, pp. 86, 87).

Examples of Seminars or Experiences Used to Develop the Professional Training Aspect of the Program

An excellent example of a seminar designed to develop all aspects of professional training in a doctoral level program to prepare career teachers is one offered by Dr. Frank W. Finger of the University of Virginia. The course consists of an optional two-semester graduate seminar entitled "Professional Problems." Students are well advanced in the doctoral program in psychology, having passed qualifying examinations and completed course work. Meetings are held weekly in an informal setting with discussions based primarily on prior preparation using several dozen book titles and serials. Each student explores one topic in depth through reading and sometimes a minor research project and leads discussion for a session or two. Discussions are extended at times by the addition of outside resource persons. The topics covered may vary from year to year, but essentially include the following subject matter:

Introduction: University of Virginia, Professional Problems Seminar. I start by outlining my objectives in offering the course, describing a number of attempts at other universities to achieve some of these goals, and speculating a bit why so few programs seem to generate and sustain adequate support. I then outline our anticipated procedure and invite the students to add to my tentative list of topics.

The Fields of Psychology. With a bow to the breadth implied by the title of the course, and to gain some perspective against which to examine academic psychology, we consider the kinds of settings in which psychologists work. In each instance we look at employment statistics, responsibilities, interprofessional relations, range of remuneration and perquisites, training required, patterns of advancement, and probably direction of change. Mobility among the fields, especially in and out of the academic, is noted.

History of Academic and Professional Psychology, Organizations. The present relationships (including the undoubted tensions) among academic and nonacademic psychologists, and between such divergent academic groups as clinicians and experimentalists, can better be appreciated after studying certain trends and salient events of the past 100 years. One framework that ties together the development of professional psychology and its current status is organizational. The origin and growth of the various psychological associations and societies are sketched, with some emphasis on personalities; formal history is supplemented by anecdote. A contemporary analysis of the American Psychological Association is made–structure, functions, politics. We struggle a bit with the proposition that the individual has an obligation to his profession, best met by involvement in the appropriate organizations, however burdensome this may sometimes be. The listing of nonpsychological organizations to which psychologists belong suggests the desirability of ignoring artificial disciplinary boundaries.

History of Higher Education. Whether certain practices in the modern university exist for currently valid reasons or represent cultural lag can more clearly be judged as their evolution is traced. In the transition from the mid-nineteenth-century college to the postwar university the influence of general national trends is easily discernible; it is an interesting exercise to crystal ball the response of higher education to hypothesized sociopolitical convulsions in the closing decades of the millenium. The proposition that the relationship may be reciprocal underlies our consideration of the potential influence of psychologists and other academic professionals upon public policy.

The Governance of Colleges and Universities. The interlocking roles of trustees, legislature (where pertinent), president, deans, chairmen, faculty, alumni, nonteaching staff, and students are examined with the aid of tables of organization, books and articles by representatives of each group, and my observations. At least one institution and state system, and certainly our own, is analyzed in detail, with some historical background. An attempt is made to differentiate between nominal power and de facto control, with the usual obeisance toward the dean's secretary and the maintenance personnel.

Types of Institutions. We enumerate and categorize the institutions of higher learning according to various classification systems, such as size, degrees offered, sources of support, geographical distribution, and characteristics of student body. It is usually in this context that we compare different types of psychology departments, partly with an eye to future appointment. We ponder the advisability of offering psychology in subcollegiate settings, and occasionally bring the statistics on this practice up to date, by mail survey.

Academic Freedom and Tenure. Judgment by one's peers, as the standard for appropriate professional behavior, is examined as it has been applied to higher education and research. The role of the American Association of University Professors in the formalization and implementation of the concept of academic freedom, and the more recent evolution of legal precedents, are delineated. It is not difficult to generate debate on the merits of continuous tenure, as both instigation to premature ossification and protection against arbitrary thought control.

Student Rights and Responsibilities. This topic has peculiar relevance at the moment, and there is no end of hot-off-the-press material for discussion. It seems to us that an important factor in the era of confrontation is the failure of the teaching profession to have accepted its proper responsibility for governance, a symptom of the general unconcern for professional problems that such devices as this seminar are designed to counteract.

Objectives of Higher Education; The Concept of Liberal Education. The logical first step in establishing a curriculum or planning a course is to decide what changes in the student are sought. Lists of goals can be found, under such rubrics as liberal education and general education. Our agreement on priorities is never perfect, which reassures us that there will always be variety sufficient to accommodate the wide individual differences among seven million collegians. We diverge still further when we try to establish criteria by which achievement of any of these goals can be demonstrated, which is a source of particular embarrassment to us behavioral scientists. One may perhaps be sustained by the faith that any set of objectives is preferable to none, and that one's teaching will surely be more vital if he has at least struggled to formulate a statement of purpose.

Varieties of Curriculum. The faculty member will be able to respond better to deficiencies in existing course patterns if he has some appreciation of the alternatives. By report and readings we are introduced to standard curricula and to examples of experimental programs. We acknowledge the desirability of evaluation, and grapple with the obstacles thereto, especially the distorting effect of novelty itself. Each of us constructs an "ideal" curriculum for some hypothetical group of undergraduates, justifying each characteristic by reference to a guiding set of objectives. In still more detail we devise and defend various schemes for the major in psychology. The virtues of interdisciplinary courses and majors are weighed, with real and imaginary illustrations.

Course Planning. Most of the members of the seminar have had considerable exposure to introductory psychology courses, and many of them have suggestions for improvement. The detailed planning of a course brings them a little closer to the harsh realities of personal responsibility. Presentation of the plans to the class usually precipitates further dispute over goals, this time tied more closely to what actually happens in the classroom. If time permits, each student also outlines one advanced course. We inspect critically the various psychology course syllabi available, such as those assembled by the Course-Outlines Project of Division 2.

Techniques of Instruction. While agreeing that no universal formula for success can be given the prospective teacher, we find it valuable to read about and talk about the several techniques. I usually start by presenting my own biases with regard to effective lecturing, and the students quickly demonstrate that there are differences of opinion. We proceed to other methods: discussion, seminar, tutorial, laboratory, programmed instruction, and their combinations. Uses and abuses of audiovisual aids and demonstrations are considered. Our discussion is supplemented by visits to various undergraduate classes, by invitation.

Practicum in Teaching. Most of our students have served as assistants in undergraduate courses, and have been permitted to exercise a fair amount of independence in the laboratories. Further, the teaching aspect of seminar reports is stressed in some of our substantive graduate courses. It has never been the practice in our department, however, to employ students as instructors. In an effort to compensate for this lack, I arrange for several guest appearances for each seminar member. Most of these are in the introductory course, or in the fairly large intermediate course, and thus principally entail lecturing. The preferred plan is to assign a fairly well-defined block of subject matter, with from two to six successive class periods made available. The amount of guidance is left to the student teacher and the responsible professor; my contribution to preparation is seldom more than very general. Unless the novice prefers otherwise, the rest of us observe from the rear of the classroom or through a one-way window. He usually finds it instructive, albeit somewhat traumatic, to review a tape of his performance. At our next session we take time to hear his account of the experience, and we offer whatever suggestions seem appropriate. Some students seek a private conference with me for a more searching critique.

When possible, a student undertakes two series of substitute lectures, one during the first half of the year and the second toward the end, after our group discussion of the teaching process. While more extended practice would be beneficial, the limitation in time is to some extent offset by the more thorough preparation and intensive evaluation possible with the briefer assignment.

As the student takes his place behind the podium, certain matters of classroom administration are brought forcibly to his attention. While his transient status limits his practical response, this is a fitting time to swap recipes on the handling of organizational problems of both routine and emergency nature.

Evaluation of Learning: Examining and Grading. An inescapable chore in most institutions is the certification of student performance, and the teacher's job is almost always complicated by this requirement. The new instructor may be particularly troubled by the apparent incompatibility between his twin roles of guide and evaluator, and experience may blunt his sensitivity to the dilemma rather than resolve it. To this are added certain mechanical complexities; if simple psychometric principles are known to college instructors, they are largely ignored in the testing and grading process. To our class's theoretical discussions may be added some practice in examination construction and consideration of sample cases.

Evaluation of Teachers and Teaching. There is a substantial body of research comparing instructional techniques for their effectiveness, and searching for critical variables in the teaching situation. Our study of these data is less likely to reveal compelling arguments for adopting a particular teaching format than to generate an urge to do some investigating of our own. One project frequently suggested is the development of an evaluation form especially adapted for our departmental needs. Its application seems to be helpful to our colleagues, and it certainly dispels any preconception that definitive research in this area is simple—or even that undergraduates can readily be persuaded to play the part of judicious customer.

Student-Faculty Relations. What are the faculty member's responsibilities to the student outside the classroom, and to what extent can extracurricular contacts affect the formal learning situation as well as the general morale on campus? We consider the place of professional counselors in the educational enterprise, and the possible patterns of cooperation with the professor. Unfortunately a large proportion of us are in colleges that make only limited provision for help by specialists, and we must individually work out some compromise between responding to the needs of the student and recognizing the limits of our competence.

The Professional Marketplace. It is natural for the members of the seminar to have certain practical concerns. What jobs are available for next year? How are contacts best made and exploited? What aspects of a position should the candidate be concerned with? What sort of bargaining is feasible? How are decisions between competing offers reached? How should final agreements be formalized? I try to guide their thinking beyond original appointment. What is expected of the new teacher? How does one carve out his unique niche in the academic world? How can one insure his continuing professional growth and corresponding institutional advancement? Should one seek out or seek to avoid administrative responsibilities? What sorts of consulting opportunities outside the university are available, and how can they best be integrated with the rest of one's work? Obviously our talk spans a wide range—from vita to philosophy of life, from committee assignments to tuition grants for children, from faculty teas to research leaves, from library acquisitions to AAUP compensation scales. Before the year is over the seminar becomes the informal clearinghouse for the latest market news and firsthand reports of job interviews and missed airline connections.

Personnel Problems. Professors and administrators are people, and like other people carry their personalities along with them to the office. As long as this is so, ability and performance will be imperfectly correlated, recognition and reward sometimes whimsical, and job satisfaction only partially a function of salary and teaching load. The case histories recounted range all the way to psychosis, and the solutions volunteered are about as varied as we are.

Information Storage and Retrieval. Journals, books, abstracts, proceedings, meetings–the life of the scholar is becoming increasingly complex on both input and output sides. New practices, including computer assistance, are foreseen. Meanwhile, we find it useful to discuss the preparation of journal articles and the process of shepherding the manuscript through to the publication stage. The quite different art of oral communication of scientific results merits still more attention, with the spring regional and state meetings adding the emphasis of reality for most of the students.

Financial Resources for Higher Education and Research. If for no other reason than to know what requests can reasonably be made of the administration, a faculty member should have some knowledge of institutional bread-and-butter matters. We document the general survey of financing by detailed examination of our university's capital and operating budgets. To one who would anticipate the future, for example in terms of government control of education or the ultimate fate of the private university, an evaluation and projection of current fiscal trends is in order. Special attention is given the possibilities for support of personal research, and each student prepares for criticism a grant proposal in the form required by some federal funding agency.

Social Control: Ethics, Accreditation, Legislation. With the proliferation of applied specialties since World War II, psychology has undergone a virtual revolution in terms of formal controls over both practice and training. The APA Code of Ethics includes a number of items of especial relevance to the teacher-scientist. Since individual conscience is supplemented by group consensus in the enforcement process, exchange of points of view within the class is particularly valuable. We follow the arguments for and against the Association's approval of graduate specialty programs and of internships, and note the function of the American Board of Professional

> Psychology in conferring the diplomate status on certain classes of professional. For the purpose of illustration, the 25-year history of legislative control in Virginia is reviewed, from the conception of the first certification bill to the practices of the present licensing board, including its involvement in the nationwide reciprocity efforts. There are usually Congressional hearings to heighten our concern: on invasion of privacy, use of psychological tests, limitations on research with human subjects, conditions of animal care and experimentation, as well as on use of fiscal power to limit the vigor of campus dissent (11, pp. 1044-1049).

Milton Hildebrand, of the University of California at Davis, offers a three-unit graduate course entitled "Analysis of the Elements of Effective Teaching of College Biology." The course is directed toward the graduate student who will be an assistant professor in a year or so. The class meets twice weekly in combination lecture and lively discussion. The content and emphasis, though not fixed, includes the following activities from which to begin:

1. What is teaching? What is effective teaching? Objectives of teaching. Unique opportunities and qualities of teaching and learning at the university level. Kinds of teaching.

2. Ways to improve one's teaching.

3. How is teaching evaluated? How should it be evaluated? Objectives and uses of evaluations. Specific instruments. Teaching in relation to research and advancement.

4. Factors influencing learning.

5. The curriculum in biology. Structure according to levels of organization, systematics, significant ideas and concepts, traditional "ologies," special learning experiences, methods and skills. Eclectic programs.

6. The preparation of a course: selection of subject area, objectives, method of presentation, students, and text. Prospectus and outline. Budget. Formal procedures and notices. Detailed schedule.

7. The preparation of lectures: the lecture as a unit, structure, relation to text and lab, use of notes, timing. Preparation for a lecture: review, practice, facilities. Delivery (each student presents 10 minutes of his lecture in a large lecture hall).

8. Examinations: objectives, kinds, characteristics of "good" exams, kinds of questions, arrangement of questions, deriving the desired distribution of scores.

9. Grading: accuracy vs. validity, alternative methods, procedures, recording and reporting.

10. Teaching by discussion: objectives, advantages, preparation, procedures.

11. Teaching in the laboratory: objectives, skills, getting away from lockstep, the use of demonstrations, oral quizzes, practicals.

12. Counseling: objectives, alternative systems, procedures.

13. The creative element in teaching. The rewards for effective teaching.

In addition to these 13 activities, each student turns in four of the five following assignments:

Prepare in detail the curriculum in biology at your ideal college.

Prepare in detail the course you would like most to teach.

Prepare in detail one lecture in your course.

Prepare a midterm examination for your course.

Write an essay on any other subject relevant to this course (e.g., evaluation of teaching, nature of teaching-learning process, objectives of teaching, programmed teaching, etc.).

These papers are prepared in draft form prior to discussion of the respective topics in class and are completed after the discussion. References are made available. After the papers are returned, there may be further discussion, students with contrasting points of view being invited to defend their approaches (5, pp. 96-97).

These examples of seminars represent only two of the variety of seminars that are offered. Such seminars are found both in PhD programs in which all take the seminar and in programs designed especially to prepare college teachers, as typified by the plans of these following Carnegie-grant institutions.

Professional Preparation in the Programs of the Carnegie-Grant Institutions

Professional preparation for college teaching in the programs of the Carnegie-grant institutions covers a wide range of topics presented in various ways. Courses and seminars are sometimes drawn from an extended list of existing graduate offerings in psychology and education and are considered to be related to the major field. Selections are made on an individual basis and approved for their relevance to professional aims and a coherent program. Specific courses and seminars in psychology and education, in other instances, are designated as required cores. Specially designed basic core courses and seminars are also developed to integrate with other elements of a program. Apprenticeship college teaching seminars and colloquia, with and without assigned credit, represent another alternative for providing professional preparation for college teaching at a departmental level or at an all-university level for all DA graduate students:

Claremont Graduate School: requires a 2-year noncredit DA Colloquium, designed and supervised by the DA Administrative Committee, with emphasis on history and philosophy of higher education, psychology of learning, observations of junior and senior college teaching, and a general introduction to problems of various types of institutions in higher education.

Idaho State University: biology requires a demonstration of competence in pedagogy; mathematics specifies an education component (6 S.H.); government requires a course in methodology of all candidates; and English includes a pedagogy component in its own department: English 603–Seminar in Teaching Composition and Literature (2 S.H.), and English 614–Introduction to Learning Theory and Educational Measurements (3 S.H.).

Lehigh University: requires a sensitivity core (18 S.H.) with intensive training in interpersonal awareness (6 S.H.) plus core courses in cognition, the 2-year college, the Negro in America, and one other.

The University of Michigan: provides a core of four courses (15 credits) newly designed to meet professional needs and to integrate content and method appropriate to the 2-year urban community college. Center for the Study of Higher Education provides faculty for treatment of the history, sociology, structure, and educational philosophy of the 2-year college.

Stephen F. Austin State University: requires an experimental course in psychology on cognition or theories of learning (3 S.H.), materials and methods courses taught in the department (12 S.H.), and an all-university colloquium for exchange, presentation and feedback. Independent study opportunities provide for individual interests.

State University of New York at Albany: consists of one course devoted to the history and philosophy of higher education (3 credits), two apprenticeship seminar courses in college teaching in the departments (6-8 credits), or a sequence in Introduction to College Teaching of English (10-15 credits).

Washington State University: related courses are selected from existing offerings and approved by the advisory committee to provide latest research results in field of education, new teaching methods and techniques in the field, and the philosophy and psychology of pedagogy in general.

University of Washington: related courses are selected from existing courses in consultation with adviser and supervisory committee to identify the latest research in education, newest teaching methods in the field, and the history and philosophy of higher education.

Summary

This chapter offers a very brief overview of the professional knowledge and skills which a college teacher should acquire. The simple listing of these provokes several concerns. To some persons, the suggestion that time be assigned to these in the doctoral program would be greeted with amusement, irritation, or outright horror. One view is that these elements are to be learned on the job or by incidental reading. This savors of suggesting that the would be physician learns only about medicine, nothing of how to practice it. Acquiring of disciplinary knowledge must also continue on the job and by incidental reading. Professional training requires a balanced approach, and the failure to give attention to any of the topics can only be an indication to the prospective teacher that those who guide his program consider them to be of no importance. However, every candidate for a degree in college teaching will have been exposed in some manner to each of these topics, and the actual time required for an adequate orientation should not be excessive. Informal talks and discussions, internship experiences, and two or three scheduled seminars should provide an adequate introduction.

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Chapter 4

THE INTERNSHIP

An internship is a key element in preparing professional personnel, but it has not been so regarded in preparing college teachers. In great part, this stems from the fact that the discipline and the disciplinary-based societies and associations have provided the claim to professionalism rather than the teaching responsibility. If college teaching is viewed as a professional field, then the claims of the internship require reexamination.

It is still arguable that approximately 7 years of exposure to college teaching ought to provide adequate orientation to the task, but the mere survival of that many years of teaching may only attest to endurance and to the strong probability of having experienced both good and bad teaching. The student is seldom aware of the reasons why certain materials are covered, certain techniques used, or of the constraints and pressures under which the professor operates. One may use the services of a dentist, lawyer, or physician for many years without qualifying as a professional in any of these fields.

A teaching assistantship or fellowship is sometimes pointed to as providing the equivalent of an internship. This is possible, but the dissatisfactions and complaints of teaching assistants and of their students suggest that adequate supervision is lacking, and that the teaching assistantship is viewed by both the assistant and the department as a cheap (not so cheap, in fact) way to buy instruction in beginning courses which the faculty prefer not to teach anyway. The teaching assistants also buttress the graduate program, but the teaching is rarely considered a part of the student's program. A teaching assistantship in the department in which the student does his graduate work is an unnatural situation, unless the assistant is accepted as a full member of the department and participates in all its deliberations. Even so, the teaching of only beginning courses in the graduate-oriented department of a university is an inadequate introduction to teaching in an undergraduate institution.

Still another contention is that many doctoral candidates have already had several years of teaching experience before entering or before completing the degree. This fact complicates the situation, but it does not eliminate the need for appraisal of the teaching competency of the candidate and for appropriate remedial or developmental experience as needed. A program that purports to prepare college teachers should provide some assurance that the products are capable college teachers.

The topic of professional knowledge and skills covered in the previous chapter merges into the internship. Some experiences for the former may precede the internship, some may be concurrent, and some may be merged with it. In fact, seminar type discussions with interns is a very useful way of developing some themes relating to teaching as well as appraising current performance and problems. There is no one ideal approach for a teacher, and the discussion of varying approaches with consideration of the rationale for each can be very helpful. Indeed, the advantages of a multiple point of view raise some doubts as to the wisdom of an internship or supervised teaching experience carried on under the guidance of a single individual. There are many ways to provide a satisfactory internship once its purposes are clarified and accepted.

Objectives of the Internship

The major objectives of the internship are to initiate the novice into professional status and to smooth the way into academic life. This is accomplished by planning for and providing such experiences for the doctoral candidate as:

1. Opportunities for acquiring professional sophistication and practical information, to bridge the gap between theory and practice and between graduate student and professional status.

2. Opportunities to observe and analyze a wide variety of teaching styles and strategies.

3. Opportunities to analyze and evaluate under realistic conditions his own approach to teaching, his students' approach to learning, and the strategies and techniques for organizing materials and preparing for teaching.

4. Opportunities for greater involvement in the planning, development, and evaluation of course offerings than is usually available to the teaching assistant.

5. Opportunities for teaching students representing a wide range of abilities, ethnic backgrounds, and future aspirations.

6. Opportunities to learn the organization and relationships among the departments and between them and the administration; to know the policies of the institution and how they are determined; to become familiar with the system of governance; and to attend some faculty meetings and advisory committee meetings in the department.

In sum, the internship objectives are related to the roles and functions of the college teacher, and are directed toward providing the preparation which he will need in his first position under circumstances in which his errors can be corrected and his capability for development carefully assessed. Perfection will not be attained, but the individual should have been set on the right track–that of developing his own approach rather than unconsciously copying that of a former professor or falling into patterns of convenience rather than predicating teaching practice to the student learning expected.

Types of Part-Time Experience

The University of Michigan Center for Learning and Teaching (6), on the basis of an extensive survey of college teacher preparation programs, suggests three functional stages for an "optimal" model for part-time experience, starting with considerable structure and direction.

Level I–for Graduate Assistants:

Student familiarizes himself with content, methodology, and structure of the course he will teach.

He obtains practice in preparation of resource materials.

He constructs and scores examinations.

He observes the teaching styles of one or two experienced professors.

Under supervision of an intern, he prepares and presents three or four class sessions that are videotaped as presented so that in a subsequent conference with the faculty supervisor he may analyze his own style as it influences what occurs in the classroom.

Level II–for Teaching Fellows:

> The teaching fellow is given a general outline of a course that he will teach to a class on his own. He is responsible for planning the sessions, selecting the methods of presentation, and evaluating his students. This level is accompanied by regular supervision and consultation or by a workshop focusing on test instruments, group dynamics, and the new teaching technologies.

Level III–for Instructor or Intern:

> The instructor has complete responsibility for all phases of an entire course and participates to a limited extent in departmental affairs, which includes attendance at faculty meetings and service on faculty committees. In addition, at this stage, he assumes a supervisory role for entering students. The teaching load is reduced and the guidance aspect of the supervisory role is viewed as part of his training as a prospective college teacher (7).

A second type of part-time internship experience was offered by the University of Washington in 1966 by the Department of Romance Languages and Literature for incoming teaching assistants in French. Twenty-three new interns were selected and appointed for 1966-67; one of the conditions of appointment included attendance at the internship program for which they were given an additional half-month's salary. Appointees with considerable prior teaching experience could petition to be excused.

The internship program extended over a 2-week period prior to the beginning of fall semester, with classes scheduled from 8:30 to 11:30 in the mornings and some afternoon assignments. The program included 13 hours of lecture-discussion, 7 hours of viewing and discussing films especially prepared for this program, 5 hours of observation of a demonstration class, 6 hours of simulated practice-teaching, and 5 hours of general discussion. An additional activity, observation of students in the language laboratory and the practice of monitoring them, had been contemplated, but was abandoned due to the small number of students available during the internship period.

In the Lecture-Discussion Series, conducted by the faculty supervisor, interns were introduced to the principles of phonological and morphological analysis using certain sequences of basic French grammar for illustration. Lectures were also devoted to teaching procedures, such as the use of dialogue in language teaching. Basic concepts of descriptive linguistics were sufficiently developed to provide the basis for individual reading and study and the use of the textbook.

The Films were a series of seven kinescope films produced for use in the internship program. They were edited from 25 50-minute actual class hours of the Elementary French 101 class, taped, and then kinescoped in their entirety. The edited sequences illustrated and demonstrated the principles and techniques discussed in the lecture-discussion sessions. They provided a visual presentation of the types of classroom situations the interns would soon encounter.

Observation Sessions involved use of a classroom equipped with one-way glass and portable Vega microphones (transmitters). Later, remote controlled CCTV cameras were placed in the classroom being observed. Interns were located in an entirely separate room and could discuss class activities as they occurred.

Practice Classes were scheduled for interns to teach simulated presentations which were discussed and criticized with the entire group so they could benefit from each other's performances.

General Discussion Sessions were used for planning for specific classes and other administrative detail. Each intern completed two recordings of his voice in French, one prepared and one improvised, which helped the faculty supervisor to assess fluency and accuracy in spoken French.

Upon completion of the internship, each intern submitted a written evaluation of the experience. Evaluations were studied and summarized by an independent agency. The results are used as a basis for future planning and for expansion to additional language departments (3, pp. 110-112).

Full-Time Experience for a Semester or Year

Full-time intern experience for a semester or year may continue on the campus where the degree is sought, or may take the intern to another campus. Should the intern remain on his own campus, he will be at Level III in the three-stage functional program outlined earlier.

Opportunities for internships on other campuses require careful coordination and assessment of benefits that accrue to both institutions. Some type of reciprocal arrangements might permit an exchange of personnel and resources. Increased accessibility of community-junior colleges promises to provide a broader base for novice teachers than a university setting. The graduate experience could profitably include both types to give beginning teachers greater opportunities to respond to the full range of student needs and differences (4, pp. 294, 295).

An internship at an undergraduate teaching institution on another campus provides some unusual opportunities. The intern can more easily enter into the full life of the smaller community. He might begin by working with his mentor on one course, participating in all its aspects. His mentor (professor) retains responsibility while sharing in a mutually educational relationship. The intern would participate in construction, administration, validation and grading of tests. His participation in the development of a plan for a class or laboratory, its execution and evaluation would be limited only by the extent of his experience and ability. In general, the intern would expect to do what all faculty members are expected and required to do.

The intern and mentor could consult on objectives and strategies of presentation for their course. As he develops skill and proves himself, the intern should be given more and more responsibility until he is responsible for most of the classes by the conclusion of his internship. He observes the college in operation and is welcomed at staff meetings, faculty meetings, and committee meetings.

Throughout his experiences the intern is evaluated by his mentor, who reports to the degree granting institution. The intern is also expected to evaluate his experiences for the university. In this model, some corrective should be provided to the possible dominance of the mentor's point of view. Regular discussions with several staff members on the internship campus, with other interns, or with the graduate program chairman are possibilities (1).

Issues Regarding Credit

Teaching internships, though obviously related to an undergraduate teaching career, have generally been regarded as inappropriate for credit or even formal recognition as part of the PhD program. This attitude holds despite the fact that research experiences prior to the dissertation and field work (which may involve either research or practical experience) have been an accepted part of the PhD degree program for years. Nowhere is this more evident than in the natural sciences–especially in the biological sciences, geology, chemistry, and physics. Apparently as long as the field work and internships contribute to research competencies required for the PhD, they are acceptable. It is when the field work and internship contribute primarily to practitioner-type professional competencies for on-the-job performance that doubts are raised. Should credit be granted for the internship, or should such experiences be postdoctoral or supplemental? It appears likely that demonstration of competency rather than credit will remain as a legacy, even in programs designed especially for the preparation of college teachers (2, p. 171). However, if the internship is incorporated as a degree requirement, credit is really incidental.

Financial support for the internship has not been completely resolved. The experience merits such support, but efforts in its behalf have not been as vigorous as for research. The intern who remains on the degree-granting campus should be paid for his teaching and receive increases with the assumption of greater responsibilities. The intern who goes to another campus is unlikely to receive university support, and some sort of substitute may be required. A stipend from the college of internship seems to be the ultimate answer, although foundation support may initially be required to develop this aspect of the internship program (1).

Supervision and Evaluation

The supervision and the evaluation of the internship are directed toward the development of competencies that are related to the various specific dimensions of teaching which include: (1) course design, (2) management of learning skills, (3) personal contact with students, (4) self-evaluation, and (5) professionalism.

The formal course requirements of the doctoral program should insure competence in the organization of knowledge in a particular discipline. The professional seminars should develop such skills as establishing instructional objectives, selecting topics, sequencing them to make a coherent whole, choosing materials, and deciding on appropriate ways to evaluate academic performance of students. The management of learning skills requires competencies involved in selecting the educational and technological methods suggested by the nature of the objectives as most appropriate. The internship should provide the practical experience in tying these competencies together and evaluation should be aimed at determining that this does take place.

Effective personal contacts with students involve ability to establish rapport through sensitivity to the feelings of the age group and understanding of their views. The prospective college teacher must show evidence of growth in responding to the needs of students, in providing them with helpful information beyond repetition of course content, and in demonstration of respect for them as individuals. The teacher has to be accessible, open, able to listen, and aware of how his actions affect others. Self-evaluation and development of professionalism competencies can be furthered by class visitation by others, teaching by objectives, and solicitation of student opinions (5, pp. 17-23). All of these should be treated in professional seminars closely coordinated with the internship. As data are collected on these points, the seminar may be an excellent place to discuss them.

Careful evaluation of prior experience is necessary in order to assure that the internship learning experiences are flexibly arranged for individual needs. Appropriate timing and the graduate student's readiness for successive stages are important considerations. Previous teaching experiences should be evaluated for whatever bearing they may have on the total internship experience. All or part of the internship should be waived when it is demonstrated that a candidate, by prior experience, has already achieved these goals. Prior subject matter mastery needs to be evaluated to determine whether the intern requires remedial measures to assure his readiness for the courses with which he will be involved. One way to achieve these ends is a series of weekly preparatory sessions in which the student performs the current assignment, is presented with the most common undergraduate questions and sources of misunderstanding, and participates in ways of formulating explanatory responses. A reliable source of information about undergraduate student needs relative to the principles under study is assumed. The experience allows a new intern to discover for himself what he lacks in content mastery under conditions that are nonthreatening to his self-confidence (5, p. 17).

Methods of evaluation to determine progress in developing the competencies to which the internship is directed include microlectures and videotapes, sensitivity training, formal courses related to college teaching, supervisor observation by class visitation, and student reactions. Videotaping and subsequent playback serve as a feedback device to record not only what the teacher does but also the reactions of his students. A live audience of undergraduate students, with a significant proportion of the tape recording being their responses to what the teacher is doing, is a very useful source of material for evaluation. Split screen techniques and arrangements are useful if such arrangements can be made.

Sensitivity training provides helpful feedback to individuals on how they affect other people. This information, given in the proper atmosphere and using the appropriate safeguards, can be used productively by the intern to promote his insight and contribute to his self-evaluation.

Supervisor observation by class visits can be used effectively in evaluation if there is emphasis on the subsequent conference as a learning experience for both the intern and the faculty supervisor. Although subject to a number of weaknesses in sampling and possible disruptions of students by a foreign presence, class visits can be effective as one element of evaluation (5, pp. 40, 41). Solicitation of student reactions to classroom teaching experiences may provide an additional helpful source of evaluation if they are used in supervisory conferences designed as learning experiences.

The internship experience not only provides professional skills in teaching, curriculum, and evaluation to prepare prospective college teachers for their various roles and functions in college teaching, but also provides a background for those who wish to engage in supervision of undergraduate programs involving field work, practicums, and independent study. Much of its success, of course, depends upon supervision by senior faculty who are themselves capable teachers. Unless the intern receives supportive and corrective suggestions and senses his own improvement, the requirement will be so wasteful of time and so much criticized as to be soon discarded. Program proposals of some of the Carnegie-grant institutions illustrate attempts to make the internship serve the ends of professionalism.

Internship Experiences in the Programs of the Carnegie-Grant Institutions

All doctoral programs preparing for college teaching in the Carnegie-grant institutions include some type of graduated sequence of teaching experiences culminating in an intensive supervised internship (or externship) usually on the campus of a 2-year community college or a 4-year liberal arts institution. Typically, the internship occurs in the third doctoral year. The assignment extends over one or two terms on a part- or full-time basis. Remuneration takes the form of a fellowship from the training institution or of salary commensurate with that of any other instructor from the interning institution or both. Plans for the substance and content of the internship, and the seminar which usually accompanies it, are developed jointly by the two institutions. There is an awareness that this aspect will need to be subjected to continuous scrutiny for revisions and modifications based upon experiences and feedback from participants. Supervision and evaluation are provided by the mentor in the interning institution and a faculty member from the intern's major department; in some cases, the latter may be a member of his doctoral committee.

The internship provides varied experiences in teaching beginning and advanced undergraduate courses in the discipline. Related activities usually include advising and counseling students, serving on departmental committees, and other typical activities of the college teacher. In all of these, the intern is supervised and evaluated systematically through classroom visits, conferences, and student reactions. In every program, the intern must be certified as successfully completing the internship before the DA degree can be awarded.

Distinctive features are found in some programs:

Brown University: refers to the internships as "an experimental field experience."

Claremont Graduate School: assigns the intern to a junior or senior college in the third year of the program. The Intern Colloquium provides the opportunity to discuss problems as they are encountered with faculty from CGS and master teachers of the interning institutions. Evaluation is made several times each semester and at the end of the year through site visitations, consultations, and questionnaires. Work is evaluated by DA committee and master teachers from interning institutions.

Dartmouth College: various predoctoral strategies for emphasizing teaching will be developed, including a teaching workshop involving work with master teachers during a 5-day period before the opening of fall term and for shorter periods preceding winter and spring terms. The experience consists of intensive teaching sessions for all participants who also play the role of students in a class. Videotapes and other means of critical evaluation are used. Other strategies are: concurrent courses in which the student studies and teaches the same material; freshman seminars developed and run by graduate students with exchange visitation of classes, critiques, and discussion sessions among staff members; team-teaching; high school and junior college teaching. Several of these techniques are already in operation and are also expected to provide experience in planning syllabi, ordering books, counseling and all aspects of teaching.

A key element of the proposed program is the plan to provide postdoctoral teaching appointments for a substantial fraction of the students to teach in the normal rank of Assistant Professor for the usual 3-year term upon receiving their degrees. This commitment is expected to serve as a powerful argument against the contention that the DA is a "second-rate" degree.

Idaho State University: a supervised teaching internship (9 semester hours) takes place in the third year of the program through agreements reached with junior colleges, community colleges, and other institutions without graduate programs. The intern is assigned to one of the cooperating institutions to teach a regular faculty load and to at least one faculty standing committee as an observer. He teaches under the supervision of a senior faculty member chosen for his skill in teaching. The supervisor receives a stipend from Idaho State University for his services. The intern receives the fellowship stipend from Idaho State, and a matching service stipend from the cooperating institution is anticipated. He will be visited by his graduate adviser in the course of the internship. Conferences are scheduled regularly with the supervisor to assess the progress of the intern.

Lehigh University: early exposure to college teaching in the form of part-time teaching assignment in community college or lower division of 4-year college is called "practicum." It starts in the first semester of the second year and is repeated in the second semester. The teaching responsibility consists of one course each semester in a program aimed at breadth of knowledge, sensitivity to and appreciation of students, and effectiveness in facilitating the teaching-learning process. Evaluation is focused on those competencies not generally emphasized: empathy and interpersonal awareness.

Massachusetts Institute of Technology: plans to integrate the traditional PhD program activities with supervised teaching and with the design and trial of new curricula.

The University of Michigan: the novice teaches in a 2-year community college for two terms or in two different institutions for one term each. Teaching experience is provided in a variety of course types with students of varying abilities and interests. In the first term, there is close supervision and periodic reports of progress by both intern and supervisor. In the second term, there is more autonomy with responsibilities for counseling and other professional duties characteristic of faculty activities. The experienced teacher is placed in a situation designed to foster innovation and representing a different setting from the past.

Stephen F. Austin State University: the internship (3 semester hours) is the designation for an on-campus teaching experience involving sophomore or junior level courses under supervision. The externship (6 semester hours) consists of one semester on another campus in a 2-year or 4-year institution. The extern teaches a full load and is completely involved in a variety of teaching situations, course preparation, examinations, and counseling. Supervision and evaluation with constructive criticism are from the master teacher and SFA professor. In-service training for supervisors (6) is under consideration.

State University of New York at Albany: the internship is considered analogous to a medical internship in that it follows formal training in a discipline and represents a period for refining and testing the knowledge and skills of a beginning practitioner under supervision. The intern assumes the full responsibilities of a faculty member in a 2-year or 4-year college which has accepted him after reviewing his credentials. The cooperating college will define the duties and pay no less than to any beginning instructor. SUNYA is responsible for making arrangements and assuring a variety of valuable experiences, including teaching at all levels, advising students, and service on committees. Guidance provided jointly is directed toward helping improve teaching performance. A systematic record is made of the intern's progress through videotaping class visitations, and conferences with observations recorded on a previously prepared check list. Additional records should cover proficiency in preparing and grading examinations, advising students, and serving on committees. Student reactions should also be a part of the record. All observations and evaluations are discussed with the intern.

SUNYA has developed the criteria for evaluating general performance of the intern: (1) stimulating interest in the academic discipline; (2) clearly presenting concept in lectures and discussions; (3) describing structure of the discipline, various sources of information for further study, and views of different schools of thought; (4) using library materials and teaching aids; (5) counseling students; and (6) participation in departmental and college activities of the faculty. At the conclusion of the internship, the two supervisors review the intern's performance and recommend a rating of Satisfactory or Unsatisfactory.

University of Washington: the two-quarter internship in German Studies, under supervision and evaluation of junior or senior college mentors and U.W. teaching faculty, is divided into two stages. In the first quarter, interns observe third-year courses in conversation and literature, followed by discussion. Limited assignments for course preparation, teaching, and examinations follow. Next, the intern is assigned tutorial work and responsibility for the class for a short period. Finally, there is more independence for all aspects by the end of the term. The entire sequence is repeated in the second quarter with fourth-year courses in conversation and literature.

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Chapter 5

RESEARCH AND SCHOLARSHIP

The intent of this chapter is to discuss the nature of the research or scholarship requirement for a college teaching doctorate. In order to do this, it is necessary to lay some ground work. The title of this chapter, "Research and Scholarship," is an initial step. The distinction between research and scholarship is not a clear one in common usage. According to ***Webster's New International Dictionary,*** a scholar is one who, by long continued systematic study—especially in a university—has gained competent mastery of one or more of the highly organized academic studies. An alternative definition indicates that a scholar is one who has engaged in advanced study and acquired the minutiae of knowledge of some special field, along with accuracy and skill in investigation and powers of critical analysis in interpretation of such knowledge. The first of these indicates scholarship in the sense of knowing a discipline well and relatively broadly. The second implies a narrower conception of the mastery and relates this mastery to research skills. There is, too, in the second definition's use of the word "minutiae" a touch of the pedantic, whereas the first might imply a more general integrative approach to knowledge. In these two definitions there is clearly an indication that one may be a scholar without being a researcher. There is also a suggestion that one might be a researcher but not a scholar in the more comprehensive sense of that term.

It is interesting for a moment to play with the idea that the word "research" is a combination of "re" and "search," the implication being that research is searching again. A consideration of a definition of research suggests that much of research is not really original, but is a reexamination of what is already known. Research, again according to Webster, is a critical and exhaustive investigation or experimentation, having for its aim the discovery of new facts and their correct interpretation. But the definition continues, and suggests that the purpose may be to revise accepted conclusions, theories, or laws; or it may be to achieve a practical application of the new facts or conclusions. We may reasonably conclude from this consideration of definitions that a teacher might be a scholar without being a researcher in his particular discipline. We may conclude also that a teacher can be a researcher in reference to problems of instruction and curriculum related to his teaching without necessarily being a researcher in his discipline; but no teacher can do really significant work on curricular or instructional problems in his discipline unless he is a scholar in that discipline. That scholarship must be broad rather than pedantic; it must be integrative rather than compartmentalized.

One additional word might have been added to the title of this chapter—creativity. Research is, in itself, creative if something new in the way of facts emerges. Yet much of research is a dull, repetitive grinding out of well-tried procedures with perhaps mild adaptations to different materials than those to which they have been previously applied. Truly integrative scholarship is essentially creative because it involves perception of new relationships and insights into the composite significance of heretofor unrelated ideas or information; but beyond this, there is a creativity in the area of arts, literature, and music not ordinarily implied by either the term "research" or "scholarship." It is appropriate, however, to raise the question as to whether the writing of poetry, of a short story or novel, or the composition of some form of music is an acceptable task for a teaching doctorate. For the moment, we lay this aside to consider some other issues but will return to it in discussing in more explicit terms the nature of the research or scholarship project required for a culminating educational experience in the doctoral program.

The PhD has been traditionally oriented to the discipline and the expansion of the discipline. Accordingly, the dissertation has emphasized demonstration of competency in the research methodology of the discipline and application of this in clarifying or expanding some phase of the discipline. To keep the research task within bounds, the tendency has been to narrow the focus of the effort, and to be sure of covering new ground; there has been a tendency, as the definition of scholarship suggested, to narrow down to the minutiae of the field. This type of research is irrelevant to the undergraduate college teacher; for, as a teacher, the individual is a mediator between the discipline and the student. He is concerned both with the discipline and the student, but essentially must focus his attention on helping the individual student attain some mastery of the discipline. Thus, whereas the researcher is entirely discipline-oriented and finds that his graduate program is composed of two interrelated elements (1. mastering the knowledge of the field, and 2. mastering the research methodology and applying it), the prospective college teacher really finds himself dealing simultaneously with two disciplines. One is the discipline which he proposes to teach, and the other is the discipline of pedagogy which comprehends the professional knowledge and skills required for effective teaching. Thus the prospective college teacher must acquire knowledge in both the discipline and in pedagogy, and he must also acquire some competency in research, both in his discipline and on problems of teaching and curriculum. And he also has the complex task of interrelating these. As has already been noted, an individual cannot carry on a significant study of a curricular or an instructional problem without having some sound scholarship in his discipline, and he cannot communicate his knowledge of the disciplinary field or its research methodology effectively to students unless he has mastered some of the techniques for so doing. In some cases, the two fields (pedagogy and discipline) may be interrelated. The psychologist or sociologist is likely to find a considerable degree of overlap between his growing knowledge in his discipline and that in the field of pedagogy. He is likely also to find a significant correspondence in the research methodology applicable, but for most disciplines the prospective teacher will find such correspondence limited. He faces the task of pursuing two paths of study which he must himself ultimately bring together.

The prospective teacher needs an experience with research in the context of the discipline. This experience serves several purposes closely related to his teaching activity. First of all, the acquiring of knowledge in a discipline can, even at the graduate level, be a boring and useless accumulation of facts unless an individual acquires sufficient understanding of the search and validation techniques of the discipline to participate in this activity. Second, as a person who will ultimately be involved in curriculum development in the discipline, he requires a depth of understanding of that discipline which can come only from a combination of sound basic study and continuing interest in and mastery of new developments. The latter requires understanding of the basic concepts and methodology of the discipline. Third, in most undergraduate institutions, a professor is called upon to direct independent study of advanced students. Unless he has himself experienced independent study in the form of a research experience in the discipline, he is unlikely to be able to effectively direct independent study of junior or senior students. Fourth, in those areas in which a laboratory experience and equipment are essential elements of the educational experience, the teacher must have had sufficient experience himself with the laboratory as a research experience (rather than a cookbook experience) and with the use of various types of laboratory equipment so that he can maintain and update the laboratory aspect of an undergraduate program. And, finally, the teacher–perhaps more so than the researcher–needs to have an understanding of the significant applications of his discipline to problems of concern to the general public and especially to his students. This suggests that a part of his research or scholarly experience and resulting competency in the discipline should be in the direction of understanding and perhaps experiencing first-hand some of its applications.

The prospective college teacher also should have some research and scholarly experience and develop some competency in various aspects of the professional area. This includes curricular development and revision, instructional studies, evaluation and examinations, and some basic knowledge in the area of statistics and tests and measurement. All of these are bound together with research and scholarly experience in the discipline by the teacher's responsibility for planning learning experiences which will help his students achieve certain agreed upon objectives. Research methodology for studies of instruction and of curricular problems includes a grasp of the concepts related to measurement, experimental design, statistical analysis, and interpretation. Course or curriculum development, unless construed on the very inadequate basis of covering certain specified topics and facts, requires a decision with regard to objectives. It requires consideration of the learning experiences needed to give students practice and provide evidence of their increasing competency in relationship to the agreed upon objectives. This implies, in turn, a means of evaluation through tests, observations, check lists, or attitude inventories which indicate the effect of the program. Thus the designing of tests or examinations may be a part of a research program, and may indeed be more significant in this context than when used solely for grading the students.

The design of a research investigation in the area of curriculum or instruction presupposes that information will be gathered and interpreted. Opportunities for prospective college teachers to practice and develop these research skills can be provided through formal courses, research seminars, as a part of the internship or in consultation with faculty members who are themselves directing such research investigations. Measurement plays a role by providing information on the extent to which educational experiences have produced the intended results. Because of the many variables that may be operative in the educational process, the designing of evaluation and research studies in the area of student learning is difficult. Teachers need not become measurement experts, but they should have sufficient exposure to understand the conceptual basis for establishing objectives, defining and collecting systematic observations, recognizing sources of errors, and they should understand the concepts of reliability and validity in measurement.

The strategy for carrying out a research investigation is called a design. It involves selecting or assigning subjects to groups or experimental units, selecting or assigning units for treatments, specifying the order of the treatment and the sequence of observations. Again, the teacher need not be an expert in design, but in order to receive help from experts in this field, the teacher needs some understanding of such concepts as variable, randomness, variance, pre- and post-treatment, behavior, and interaction (the interrelationship of treatments). College teachers are not likely to be involved in the more complex experimental designs, but an introduction to this field provides the basis for seeking assistance from research specialists when needed. Again, proficiency in the use of specific statistical and analytical tools and techniques cannot be expected, but the teacher needs an understanding of some of the basic concepts of statistics, such as frequency distributions, indicators of central tendency, measures of dispersion, probability, and tests of significance and the uses of the correlation coefficient. Teachers in many of the social science and natural science fields are quite likely to acquire competency in these tools and concepts because of their utility in the disciplinary fields.

Examination writing and other methods of evaluation of student progress are important to college teachers and likely to remain so despite some current rejection of the need for examinations and grades. A continual process of appraisal and assessment involves gathering feedback data on how the students are progressing and the extent to which stated objectives of the course are being realized. Examinations and tests represent only one means of gathering information. Others are class discussions, papers, and projects. Taken together, they can provide a comprehensive picture of student attainment. The construction of tests, whether essay, objective, or oral, is a much more complicated task than the unsophisticated person realizes. Anyone who has carefully reviewed tests and examinations given in colleges quickly concludes that most of them are deplorably bad. They work only because there are implicit understandings between students and the professor as to what is expected in response to the questions. In effect, the questions ask for responses which have been emphasized in the textbook or in class and a stimulus-response pattern has been set up in which a certain combination of words posed as a question evokes a certain response from the knowledgeable student. A professor has only to give his examination to several other professors expert in the same area to learn that his expectations were not clearly indicated by the questions which he posed. Hence, knowledge about how tests are constructed, the different kinds of tests and their purposes, and the limitations of various measures should be included in any program of preparation for college teachers. The task is not unrelated to acquiring competency in knowledge of the discipline, for the writing of unambiguous questions, making specific the objectives which these questions cover and the behavior expected in response to them, is an exacting task. The individual who has not mastered a segment of a discipline will quickly reveal his deficiency as he attempts to write questions about it.

Teachers should be aware that the various types of test questions (objective, short answer, essay) have various strengths and weaknesses. Tests also can be used for various purposes: diagnosis, placement, progress, motivation of the student for further effort or review, as well as for a final grade. Teachers need to become aware of the limitations of the examinations and learn that the dissatisfaction of students with tests is at least in part due to an emphasis on factual material and omission of broader educational aims.

Research and Scholarly Requirements

A major research project (a dissertation in the traditional parlance) is not the only way of developing and using research skills. Courses in statistics or computer science are regularly used to develop specific skills. Research seminars reviewing research or providing opportunities to discuss, study, and use research methodologies are part of most doctoral programs. Association with research projects in progress offers a realistic and often highly efficient way of acquiring research skills. A teaching internship can include for some individuals the recognition of a curricular or instructional problem, the collection of relevant data, and the interpretation of this for modification and possible improvement of teaching. For the prospective teacher, the double range of research experiences required makes it essential that several approaches be used and that they be planned in advance.

In addition to these experiences, we believe that the character of a doctorate of any sort requires that there be a research project of significant dimensions included as a final phase of the doctoral program. For the prospective teacher, this need not be a dissertation in the usual formal sense; nor need it take as much time or be the "original contribution" still expected for the PhD in many departments. The research project could be strongly based upon the discipline to be taught, but it should have some relevance to the teaching of undergraduates. Its scope should be limited so that it can be finished within 6 months by a person who gives his major effort to the task. There are many other types of research projects that would be equally suitable for the college teacher. The ideal would be an independent scholarly investigation and a written report which demonstrate a synthesis of the discipline and the professional experiences in courses, seminars, and the internship. The term "project" is used here because it connotes an integrated series of activities culminating in an assemblage of materials relating to a theme of interest and importance.

The focus of such a project should be consciously planned to demonstrate the understanding of teaching, instruction, curriculum, always with relationship to the discipline, but looking to the organization and interpretation of knowledge rather than the discovery of new knowledge.

The research investigation might also involve restudy of problems with variations in new and different settings. A synthesis of prior research may be useful as a basis for course or curriculum planning and the development of new approaches to be evaluated. A critical appraisal of existing research or an attempt to synthesize data from various studies may be just as useful as the collection of original data in a curricular or instructional study.

The development of course materials is a continuing responsibility of the classroom teacher, and is particularly appropriate at a time when many disciplines are reexamining the nature of their undergraduate programs and developing new syntheses and sequences which provide more insight into the nature of the discipline. Accordingly, the graduate student might undertake to develop classroom materials of experimental nature to be tested in an existing course. In so doing, the student need not be limited to courses within the freshman or sophomore years, as has commonly been the case with teaching assistants. Such a task calls for a statement of rationale and objectives; it involves the development of teaching materials and teaching strategies, and includes some evaluation techniques or instruments. The scope of this activity in itself could be an adequate research project; it could readily be augmented by extending the project to include the classroom trial and a report on the effectiveness, as well as on the problems and the rationale of development of the materials.

Studies of instructional and curricular problems include such possibilities as: (1) the appropriate media for different varieties of learning and the conditions they require for mastery and transfer of the material; (2) the effects of different grading procedures; (3) the study of group processes (the effects of grouping students), comparisons of group techniques (discussions, tutorials, and seminars), and the development of instruments for the analysis of these processes; (4) the effectiveness of alternative methods of instruction or learning, using the videotape recorder for instructor self-criticism; (5) an experimental design to evaluate the effectiveness of computer simulation technique or computer-based instruction in improving a course; (6) comparison of various remedial approaches to the teaching of English, mathematics, chemistry, etc.

Such projects as these enhance the individual's knowledge of his teaching fields, and they contribute to the integration of his knowledge of teaching methodology and the discipline, as well as having direct significance for improving his teaching activities.

Some projects readily combine course development and reinforcement or expansion of disciplinary mastery. The following examples illustrate research projects with this emphasis:

1. A student of American literature takes courses in history, economics, and political science to understand the cultural influences existing in the period during which certain literature was produced. However, the courses in the individual departments were not designed to serve the particular purpose so that there is much left for the individual to do. One possible task would be to develop a single integrated interdisciplinary course which would reflect cultural, historical, political, and economic conditions of a particular period as they shed light on the literature which developed under these influences. Another possibility would be to prepare a paper which does this for the individual himself and exhibits for the perusal of his adviser and graduate committee members the extent to which he has been able to accomplish an effective integration.

2. A new course in cell biology is to be offered by six departments. Current discussions have indicated a need for some emphasis on the philosophy of science. The research project could be to design the objectives, means, and evaluation that contribute to this course in the biological sciences. Both the organization of content material and the skills of course development are involved in the task.

3. Design a seminar, for use with an undergraduate class, which uses the problem-solving approach to develop the mastery of a discipline, with some introduction of ideas from closely related disciplines; teach the seminar to a group of undergraduates as part of the internship experience and compile a report on the development and use of the seminar.

4. A problem already presented as a dissertation involved a comparision of teaching composition using literature as a model with a program for the writing of an informal essay. The task was to determine if there was any

difference between a program method based upon the premise that students write best when they write about themselves, their experiences, or the things that they are familiar with and the traditional method which uses literature as a model for writing.

5. Another dissertation involved examination of a general education laboratory course and undertook to compare three different approaches to the teaching of the course: (1) a directed approach, (2) an inquiry approach, and, (3) a lecture-demonstration approach. The research project was to test various hypotheses concerning the achievement and retention of facts, using locally prepared tests, critical thinking ability measured by the Watson-Glaser, the measurement of inquiry skills, and ability to transfer the knowledge and abilities acquired.

Such problems as these involve a composite of scholarship in the disciplines and in pedagogy, and provide experience in use of research skills and investigation techniques related to teaching and curriculum development. A number of them relate not only to the prospective college teacher's role in the structured classroom situation, but also provide background for introducing similar investigatory skills in honors work and independent study. A number of the examples chosen were used as dissertations in PhD programs. Presumably, then, they were accepted as research and as adding to knowledge, not only of teaching, but of the problems of learning the discipline.

As noted earlier in this chapter, the scholarship and the research project expected of a student seeking the doctorate should involve some element of creativity. However, for students in art, literature, or some other fields, the issue is likely to be raised as to whether an original painting, sculpture, or piece of creative writing should be accepted as a research project for the degree. Traditionally, such projects have not been accepted for the doctorate, and we believe that they should not be, even for a teaching degree. Courses in studio art or in creative writing are readily included in a program. The individual who plans on teaching painting, sculpture, or creative writing will certainly wish to take such courses, and the course requirements themselves will certainly include some original creations. However, the importance of the research experience in relation to teaching comprehends the field of teaching and curriculum development as well as the disciplinary field; and a teacher who is going to be in a liberal arts undergraduate institution should have the experience of a research project which interrelates his discipline with the problems of curriculum development and instruction.

The research preparation and the ultimate research project for the prospective teacher must be planned early in the program because of the necessity of covering both the discipline and the professional component of the teacher's preparation. Ideally, these are planned so that the successive research experiences combine into a major project which is the culminating aspect of the degree program. The nature of this project is such that it should be the major focus of the final oral examination. The nature of the project will generally be such that the final examination can focus on all parts of the educational experience–knowledge of the discipline, knowledge of instructional and curricular principles, research techniques–and especially on the study and conclusions derived from it. Variations in approaches to research preparation and scholarship can be demonstrated by the proposals of some of the Carnegie-grant institutions.

Research and Scholarly Experiences in the Programs of the Carnegie-Grant Institutions

Research and scholarly investigations of curriculum, instruction, and other problems relevant to teaching are emphasized in all of the doctoral programs for college teaching in the Carnegie-grant institutions. The subject of the investigation typically evolves from the internship and the professional and research seminars and colloquia. Development of the subject and approval of the research design occurs in consultation with the advisory committee responsible for supervising its progress and completion. Presentation of the research prospectus tends to coincide with the comprehensive examinations given upon completion of the formal course work. The examination evidence of ability to analyze, synthesize, and integrate subject matter preparation and professional preparation for college teaching is viewed in relation to research goals to determine readiness to continue as a candidate for the DA degree.

The DA programs differ in the assignment of a block of credits for the research and in the time allotment for the completion of the investigation. They vary, further, in their flexibility as to range of choice in topics, the media permitted, and in the format acceptable for the final report. A few illustrations will exemplify some of the variations:

Brown University: A formal project, part of the doctoral work, is to be written or otherwise recorded; it may be a work of art, an artifact, an original or design, a speculative essay, an original synthesis or integration of ideas.

Idaho State University: research is not included as a common element in the design of the DA programs. Biology requires a thesis and final examination if the Master of Science degree did not include one. English accepts a substantial critical, scholarly, or pedagogical essay or creative work in two seminars in place of a dissertation, and there is no terminal examination. Government specifies no research requirement. Mathematics requires a thesis (6 semester hours) which, at minimum, will contribute significantly to mathematics or mathematics education and a final examination for its defense.

Lehigh University: the research topic evolves from experience in the classroom with proposals submitted after the first semester of the internship in the second year. The projects may involve curriculum preparation and presentation or solving specific student educational problems.

Massachusetts Institute of Technology: a thesis will be presented in educational or interdisciplinary research to enhance more directly subsequent teaching.

The University of Michigan: personal and professional competence is to be developed through extended treatment of a single problem representing especially neglected areas related to problems of teaching and learning in urban community colleges. The problem is to be sufficiently limited in scope to permit its completion in one term of full-time work. The prospectus for the research investigation is to be presented at the time of comprehensive examinations. The format for the research is flexible; it may involve a single extended work, a series of shorter, related papers, or a joint or group effort.

State University of New York at Albany: the research problem is to show evidence of ability to apply materials and methods of scholarship in the field to undergraduate teaching. The selection and design grow out of the research seminar, and must be capable of completion in 1 year. The research report may take a variety of forms in different fields to include books, articles for publication, and films.

Washington State University: a dissertation to demonstrate competence and depth of understanding of broad areas of chemistry may be presented as a review article to be published in a scholarly journal; as a detailed outline for a special topics course, or as part of a proposal for a major research project. Oral presentation of the research to the general departmental seminar is expected to demonstrate competence in teaching and ability to apply and present results of significant research beneficial to college teaching.

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Chapter 6

ORGANIZATION PROBLEMS AND PATTERNS

Discussion of a new doctoral program specifically geared to the preparation of college teachers will stir up spirited discussion on any campus. Dunham has suggested that the degree is especially appropriate to former colleges of education which have a long tradition of preparing teachers and might naturally extend this tradition to include the preparation of junior and senior college instructors. At a number of such institutions, however, it was immediately apparent when initial discussions were launched, that the faculty would vastly prefer the PhD, arguing that the Doctor of Arts would mark the institution as second-rate. It is the faculty, and especially the departments, which resist anything except the traditional doctoral program, which (they feel) adds luster to the department and provides the opportunity to strengthen its role in the campus and in the national professional societies. Thus it is entirely conceivable that the faculty in an institution with a long tradition of preparing teachers would enter into a degree for college teachers with reluctance. And this attitude will insure that the new degree will indeed be second-rate.

In a university already well established at the doctoral level, there may be no willingness to admit that the doctoral program, as presently offered, is in any way inappropriate for college teaching. A first-rate departmental PhD program can undoubtedly point to a long period of success in preparing PhDs who have been teaching undergraduates in outstanding colleges and universities. This record of "success," coupled with the all too common view of faculty members that the effective researcher is inevitably the best teacher and that knowledge of the discipline is the primary characteristic of a college teacher, denies the need for a new program. In a university, graduate education is the bailiwick of departments. Experiences in those institutions which have already considered the Doctor of Arts program indicate a great variation in the willingness of departments to consider it. Unless a segment of the faculty is committed to the need for a distinctive program for college teaching, as compared with preparation of researchers and graduate school professors, there is little point in proceeding with it.

If there is a general disposition to develop a new program, the second issue is whether this can be done within the traditional PhD, or whether the research orientation of that degree requires a new degree. One of the difficulties with the traditional PhD for training college teachers is its highly departmentalized character and the difficulty in attaining flexibility in planning programs across disciplines or in providing the additional elements of experience and training required for a teacher. The department defines the degree, and it is unlikely to accept variations that might cause it to lose control. A few universities–via institutes, committees, or the interests of particular faculty members–offer broad-gauged doctoral programs well suited to a career in teaching; but generally the systematic development of a degree for college teaching will demand a somewhat different organization than presently exists. Interdisciplinary programs, special seminars dealing with professional components of teaching, internships, and the definition and acceptance of research projects related to instruction run counter to attitudes existing within departments and pose problems that are not resolvable at the departmental level. A department sees any serious cut in the number of courses taken by doctoral candidates as destroying the quality of the degree. The department would probably attempt to offer within its own resources a seminar dealing with the problems of teaching. This poses questions about the availability within each department of good teachers capable of offering such a seminar, and it suggests that departmental seminars may fail to treat the broader problems involved and capabilities required of a college teacher.

Many departments would readily accept a graduate assistantship as an internship, whereas many critics of college teaching regard the graduate assistantship experience as inadequate. It is not likely to be improved where graduate assistants or teaching fellows are used to eliminate freshman and sophomore instruction from the schedules of graduate professors. Many departments lack professors interested in research studies involving instructional and curricular problems. The student seeking to develop a college teaching program in a typical department would likely run into several of these problems, as well as being continually subjected to deprecatory comments by professors who believe that no person of any capability would choose other than the typical research-oriented doctoral program. Programs for college teaching require support and direction from a level above and outside of a department. Professional seminars should be experiences for all students, regardless either of disciplinary interests or of location of internships, and must be centrally coordinated. In some universities, the college of education has a significant role in certain aspects of the doctoral program for college teachers, but widely prevalent attitudes suggest that control and coordination of all aspects of the program be maintained in the office of the graduate dean with advice by carefully selected faculty members.

Organization for Planning

Discussions of special programs for college teachers have been heavily loaded with concerns about the necessity of and standards for such programs and the possible threats to departmental control and autonomy in graduate education. Certainly, if the graduate dean's office and the graduate council are lacking in concern about college teaching and feel no need for a new program, the matter should be dropped. If turned back to individual departments, as has been done, what emerges is so close to the PhD that, regardless of designation, no new alternatives have been added for the student. Indeed, he may end up in a more demanding but less prestigious program. This is not mere speculation; it has happened.

The investigation of a new degree should be coordinated out of the graduate dean's office using those members of the graduate faculty (regardless of departmental affiliation) who have evinced a serious interest in the prospect. This group may decide whether a new degree is required, or whether there is sufficient flexibility in the PhD. The goal should be to provide the prospective college teacher the flexibility to plan a program based on his interests and his expectations as to the type of situation in which he wishes to teach. There are individuals who feel that the type of institution in which they wish to teach would accept only the strongly research-oriented PhD. At the other extreme, there are individuals who are interested in highly experimental colleges with no departmental structures and little in the way of the formal course requirements and grading patterns characteristic of the majority of undergraduate institutions. Some of these colleges use a problem approach; others rely heavily on independent study. There are colleges with a divisional organization rather than a departmental one which offer numerous interdisciplinary courses. A planning committee should confront these matters and decide whether a doctoral program for college teachers is needed which will enable an individual to contemplate any one of these as a career. If the answer is positive, then a planning committee should not only recommend its introduction, but suggest also an administrative organization necessary for its successful operation.

Administrative Organization

Departments have exercised almost complete control over degree requirements and individual program planning. Most departments have limited requirements to their own disciplines. So narrow and specialized is their outlook that they have become the chief obstacle to the development of broader graduate programs interrelating several disciplines and built specifically for the college teaching role. However, the majority of a faculty sample recently expressed a preference for the broader and more extensive involvement represented by interdisciplinary arrangements. Many (78%), however, described their own activities as strictly confined to one department. This discrepancy suggests a lack of available administrative arrangements for integrating and relating the disciplines (1, p. 68).

If an all-university approach to coordination of college teaching programs is adopted, college and departmental representation in an advisory committee or coordinating agency should follow. If an extensive part of the internship activity is fulfilled within the institution, the provost or academic vice president or his representative especially concerned with undergraduate education should sit on the committee. If independent colleges are used for the internship, one or more representatives of these colleges should be included. If the college of education assists with the professional seminars, it should be represented, although the normal representation from that college—assuming that it prepares persons to teach education in undergraduate colleges—should be adequate.

In this plan, the graduate school provides administrative and academic leadership and gives university-wide recognition to the responsibility for preparing people for college teaching. The graduate school committee, composed as has been suggested, carries the major responsibility for coordinating the common elements of the program, the professional seminars and internship, and for their articulation with the academic departments and disciplines. Members of the committee may become the best source of advisers for students selecting this route.

Academic departments would continue to have a major role in the operation of the program, but an individual avowedly seeking a doctorate in college teaching would be required by the graduate school dean and advisory committee to complete an internship and the professional courses, or demonstrate that the objectives of these experiences had already been attained. In cases where two or more departments or an institute or center have planned an interdisciplinary degree, a similar situation would hold. For the individual seeking interdisciplinary study on a theme or problem orientation, the normal approach would be an initial contact with the office of the dean of the graduate school, which could grant tentative approval to the student's ideas and convene a group of faculty members to advise the student and assist him in his program planning. Without such provisions, the traditional departmental structure presents an obstacle which the individual student might find it difficult and perhaps impossible to overcome.

Only as continuous administrative responsibility and authority to plan interdisciplinary arrangements above the departmental level develop is it likely that any considerable number of them will be worked out. The designation of a central administrative structure with the power to establish interdisciplinary objectives, make arrangements for evaluation of outcomes, provide mechanisms for facilitating cross-disciplinary studies, continuously investigate new disciplinary alliances, and develop and approve programs for individuals is a necessary condition for establishing viable college teaching programs on other than a single disciplinary basis. This requires that a special corps of qualified and interested faculty members from departments be identified to work with students on this interdisciplinary basis. These persons must be of such stature that their colleagues accept the programs and they can ignore or overcome the blocks which some narrowly specialized colleagues may attempt to throw in the way of the program. It is of interest, incidentally, that Cornell and Texas have recently established divisions of interdisciplinary studies, apparently responding to the need for broader approaches to doctoral level program planning.

Most individuals concerned with college teaching will choose a program which fits reasonably well into the single departmental concentration. This corresponds to the predominant pattern in most colleges and universities. The new option may interfere with departmental programs much less than its creation would suggest. But one may hypothesize that the existence of this flexibility will ultimately affect even the single discipline PhDs, for as the number of departments and disciplines increases, the probability also increases that any particular theme or problem for study is unlikely to be encompassed within a single discipline.

Program Planning

Initial responsibility for program planning should be placed on the prospective graduate student desiring a doctorate in college teaching. He should be asked to define the kind of institution where he hopes to teach and the disciplines, subjects, or problems with which he would expect to become involved. After tentative approval by a graduate adviser in the dean's office, a committee should be convened to help the individual formulate his program. In cases where the individual already has identified a congenial faculty member as his committee chairman or major adviser, this person should be involved in the committee selection and assume responsibility for the initial advisory committee meeting. Selection of the guidance committee should take into account the various disciplines that a student might wish to study and also the possibility of periodic informal interactions with the student as he needs guidance during the course of his program.

In planning the program, the guidance committee and the individual should consider professional teaching skills, scholarly research work, and internship experiences, as well as subject matter and disciplinary study. Rather than treating these as isolated pieces of a total program, the attempt should be made to see them as interrelated, sequential, and culminating in a study of the type which the college teacher will find useful. The program planning for the individual should also be a model for the responsibility that he later accepts as an adviser of undergraduates. It will serve as a model to the extent that the curriculum planning concepts of depth, breadth, continuity, integration, and sequence important in undergraduate education are called upon in planning the graduate program. In planning the program, rigid adherence to selection of experiences in terms of the immediate goals of the individual should be avoided. For example, an individual interested in the community college might still find a meaningful internship in a small liberal arts college. A program which too narrowly interprets the interests and aspirations of an individual places unnecessary restraints on his career development. Once the individual has been made aware of this, it should still be his prerogative to state his goals and plan his program accordingly.

Coordination of Professional Seminars

The coordination of seminars covering the range of topics suggested needs to be handled separately from the departments which may carry on related ventures dealing with specific problems in the teaching of their disciplines. The broader issues of undergraduate curriculum, education technology and its role in instruction, advising, and faculty roles in governance are not only better treated at a broader level, but there is an advantage in bringing together all doctoral students interested in college teaching to develop some rapport, to identify them as a distinctive group, and to reinforce the importance of the programs in which they are engaged. Through this approach, too, it would be possible to bring these students into contact with administrative officials of the university and with guests from other colleges and universities who can contribute to the development of a broader college rather than a narrow disciplinary view.

Responsibility for the seminars should be vested in a committee which continually evaluates their effectiveness and their interrelations with other aspects of the educational program. The committee will also need to educate disciplinary-oriented faculty to the importance of these seminars. Although the college of education may provide professors to handle segments of the seminars, coordination should be in the office of the graduate dean. The seminars should not become regarded as courses offered by the college of education. The question arises as to whether credit should be given for these seminars. Generally, in PhD programs such offerings are provided within departments and attendance is required without credit. In a program for college teachers, these seminars play a role equally as important as content courses in the disciplines. Hence, credit seems appropriate, and with credit may go the expectation that students do much more in the way of reading, discussion, and attempts to regularly apply what they have learned. Two or three seminars and perhaps a total of six or eight credits do not seem an unreasonable amount of time to assign to this phase of the educational program.

Coordination of Internships

The internship program, too, requires coordination by a committee of the graduate school. This committee, staffed and possibly chaired by a member of the graduate dean's staff, would develop mutually beneficial relationships with institutions in the area, and articulate developments in undergraduate education in these colleges with the preparation of college teachers. Separate departments are not in a position to negotiate such arrangements nor should they duplicate each other's efforts by trying to do so. This committee also should specify procedures for evaluating past teaching experience of individuals and deciding whether it meets internship requirements. Departments proposing to use a departmental teaching assistantship as an internship would be required to submit for approval the details of the program. The committee should neither assume that any type of teaching experience for a specified period of time satisfies the internship requirement nor that no prior teaching experience could possibly satisfy the requirement.

If small residential colleges exist within a university, these may be natural places to fulfill an internship. Since these residential colleges are concerned with good teaching and often have unusual programs, close coordination with such colleges and with the central academic administration would be desirable. Many students will prefer an internship at a different type of institution—a small liberal arts college or a community college with a great diversity in student population. Maintaining these relationships can be time consuming, and there are inevitably financial arrangements to be resolved in a uniform pattern for all institutions involved. Off-campus internships pose some problems in supervision. Usually it will be necessary to identify one or more individuals in the host institution who can provide a continuing supervision in the intervals between contacts of the student and the home faculty, but it is important also to assure the student that, as an intern, he is not exploited.

Many institutions will find that the faculty and/or the departments are unwilling to accept the administrative organization here suggested as essential to the development of a college teaching degree. If this is the case, it is probably also true that the departments really do not wish to deviate from the PhD degree. Under these conditions, it is probably better to maintain the traditional degree pattern with acknowledgement that this is acceptable for teacher preparation for some colleges, and that the broader problem of preparing college teachers to serve the needs of community colleges and the more progressive liberal arts colleges is not one that this university accepts. In this case, the university should retain the PhD pattern and designation rather than confuse the meaning of the DA by introducing it to justify minor deviations of limited significance.

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Chapter 7

INSTITUTIONAL INTEREST AND ATTITUDES

The continuing thrust of discussions of the need for new doctoral programs for the preparation of college teachers by the Council of Graduate Schools in the United States (COGS) and the American Association of State Colleges and Universities (AASCU) reflects serious concern about institutional interest and attitudes in support of such programs. An important phase of preliminary planning for most institutions interested in developing new programs, therefore, includes conferences, consultations, surveys and workshops involving their own faculties and representatives of other institutions in the same and sometimes contiguous states. Interaction and ideas are solicited about such questions as: (1) the need for a new teaching degree; (2) the appropriateness of various proposed models and program mixes; (3) the content of the different components; (4) the possibility of cooperation in providing internship opportunities; and (5) whether their institutions would hire, pay and advance graduates of these programs on an equal basis with graduates of PhD programs.

The investigations of a few Carnegie-grant institutions illustrate the range of approaches and responses elicited during the preliminary planning phase of their developing programs.

Activities of a Few Carnegie-Grant Institutions

Claremont Graduate School: A letter and description of the proposed DA program was sent to all 2-year and 4-year institutions in Southern California and selected institutions in the San Francisco area. A request to visit each institution was made to discuss reactions to the DA concept and the Claremont program. Visits were made to 20 of the 29 (out of 35) institutions responding favorably, and involved administrators, administrators and faculty, or departments in seven state colleges, eight private colleges, and five junior colleges. An additional five institutions were represented on another occasion at the Newport Beach Conference.

Site visitations and discussions elicited wide ranging and varied responses, many of which centered around: (1) the DA degree; (2) its marketability; (3) selection of students; (4) the academic discipline component; and (5) higher education in relation to the internship.

Introduction of a new degree was questioned by many who argued for reform of the PhD, and who generally believed DAs would have difficulty securing positions under present market conditions. Administrators, especially in junior colleges, were inclined to be more receptive than their faculties. State college faculty tended to be hostile towards the degree while those from the better private colleges were inclined to be more receptive.

More constructive responses were elicited when the discussions focused on the type of training needed for college teachers rather than on the degree itself. In competition with the PhD for the same job, the consensus was that the DA would not be hired unless his training emphasized unique combinations in short supply. A superior candidate can compete regardless of degree designation. Junior colleges were generally more receptive to hiring DAs and indicated willingness to pay doctoral level salaries.

Institutional differences were evident with regard to criteria for selecting students for DA programs. Private colleges and some state colleges encourage very high admission standards to secure the best students for the programs. Junior colleges and some state colleges favor selection of in-service teachers from the junior and senior colleges with teaching experience, the MA and well-defined teaching objectives. One private college encouraged selection of candidates with private college backgrounds to prepare for placement in private colleges.

Increased breadth in the academic curriculum and more work outside the major discipline than in the typical PhD program found general agreement. Some concern was expressed, however, over the combination of broad training in a discipline or interdisciplinary preparation with a teaching internship confined to a single discipline.

Courses in higher education were generally regarded as having little importance except as used in very close conjunction with the internship or in the pursuit of very specific problems encountered. Much greater importance was attached to a flexible internship under a master teacher or team of master teachers. Institutions, especially the junior colleges, were receptive to the use of the internship to contribute to training their future faculty and were in agreement about the provision of salaries.

A second conference at Newport Beach was sponsored by Claremont and involved representatives from 2-year and 4-year colleges and universities in California who tended to represent very definite positions or came from institutions with distinct types of problems. Representatives of regional educational organizations were also included. A series of round table discussions between Claremont faculty engaged in planning DA programs and individuals representing the various groups and points of view centered around: (1) the DA degree; (2) the DA degree at Claremont; (3) the curriculum component; (4) the research component; and (5) the teaching internship.

Following extensive discussions of each topic, participants organized into two groups to draw up recommendations to present to the total conference. A number of observations and recommendations were presented by the junior-community college group:

1. The importance of recognizing the wide variety of junior and community colleges was stressed. They are as varied as their communities and anticipate continued expansion and job opportunities in the years ahead. An institution developing DAs for community colleges must be in continual communication with them. The community colleges are committed to the idea of the DA program in principle but not necessarily as being developed at Claremont. They believe there is a place for the DA in the community college if the individual prefers and is committed to the community college concept, is responsive to students, and wants to help each person grow and improve.

2. The fields for which there is greatest need include humanities, English, and speech; especially great is the need for English. There is need in the physical sciences and life sciences for candidates whose training does not involve depth in a field. A particular need exists in chemistry and mathematics. In the social sciences, there is need in political science and history.

3. The professional training should provide orientation to higher education, in addition to content, but not necessarily through courses. This orientation should come early in the program, combining theory and

practice, and be developed through continuous experiences in the community college and with the social and economic forces that prevail. The use of micro-teaching, mass media CCTV training, and training in multi-media and audio-tutorial programs is recommended.

4. The experienced community college teacher is recommended for the DA program. This represents a source of support for candidates who may secure sabbatical leaves for this purpose and receive 75% of their salary with the expectation that they return to teach in the community college.

The senior college group shared many of the same concerns expressed by the junior-community colleges and emphasized the importance of considerable flexibility in the DA program to adapt to individual needs and goals and to accommodate to specific capabilities and experiences of candidates. The following additional observations and recommendations were presented:

1. The total program should be geared to college teaching not specifically labeled one level or another and focusing on the teaching role.

2. Approximately two-thirds of the program should be in content courses and one-third in professional experience, combined with colloquia, and designed in sequential fashion with specific objectives defined.

3. Breadth in a field should mean breadth within a particular discipline rather than interdisciplinary training.

4. Research must be in the content field and where possible in the area of teaching.

5. Colloquia should be arranged sequentially for exposure to problems in higher education.

6. Some work on the problems of teaching within the candidate's own field of emphasis should be required.

7. Some exposure to committee work and working with students should be included.

Lehigh University: The Doctor of Arts proposal was endorsed upon request by supporting statements from eight cooperating institutions in the state. Included were four community colleges, three private 4-year colleges, and one state university. All of the institutions favor the general DA degree concept and the Lehigh programs in particular. Graduate students enrolled in these programs can expect internship opportunities and consideration for employment after graduation from them. The community colleges especially favor the bidisciplinary emphasis of the Lehigh programs.

Stephen F. Austin University: Supporting evidence for the establishment of DA programs includes indications of the extent to which the institutions, for which the college teachers will be trained, agree with the type of training and whether these institutions will be interested in employing graduates of the programs. A survey of public junior colleges, private junior colleges, and private senior colleges was conducted. Public senior colleges were not included because most of them offer their own graduate programs. Each institution was requested to submit their reactions. The number of institutions contacted, the number replying and their responses to six items are as follows:

	Number Contacted	Number Replied	Percentage Replies
Public Junior Colleges	40	36	90%
Private Junior Colleges	15	10	67%
Private Senior Colleges	24	19	79%

1. Our attitude toward employing persons who take the DA degree as described in the attached letter is:

	Highly Favorable	Favorable	Unfavorable	Strongly Unfavorable	No Opinion
Public Junior Colleges	31	5	0	0	0
Private Junior Colleges	5	5	0	0	0
Private Senior Colleges	9	8	1	0	1

2. Standards of the Southern Association require that colleges have a certain proportion of the faculty with 3 years of graduate work beyond the Bachelor's degree. To fill your position with those having 3 years of

graduate work, usually ending in the doctorate, would you employ faculty holding the DA degree as described?

	Yes	No
Public Junior Colleges	36	0
Private Junior Colleges	10	0
Private Senior Colleges	17	2

3. To give us some measure of the demand will you please indicate the number of persons with 3 years training you will probably employ in the fields listed below during the next 5 years and during the next 10 years?*

	Next 5 years:	Next 10 years:
Public Junior Colleges	87 Biology	156 Biology
	136 English	252 English
	116 History	213 History
	104 Mathematics	178 Mathematics
Private Junior Colleges	6 Biology	9 Biology
	12 English	15 English
	9 History	15 History
	8 Mathematics	13 Mathematics
Private Senior Colleges	28 Biology	48 Biology
	48 English	72 English
	42 History	63 History
	34 Mathematics	55 Mathematics
Totals	116 Biology	213 Biology
	196 English	339 English
	167 History	291 History
	146 Mathematics	246 Mathematics

*A number of institutions did not make estimates. In view of this fact and the possibility of additional junior colleges in the next 5 to 10 years, needs are likely to be much greater than indicated in number three.

4. The new literature on the DA indicates that these graduates will be equivalent in level of training to the PhD holders but that the type of training will be different. There is also an insistence that they be rated and paid the same as PhDs. To the extent that you would employ DA graduates would you agree with this?

	Yes	No
Public Junior Colleges	35	1
Private Junior Colleges	8	2
Private Senior Colleges	13	6

5. We feel that the plans described for this degree fit the wishes of junior colleges and 4-year institutions. We believe you are interested in employing persons whose principal interest is teaching and who are specifically prepared to teach. Are we correct in this assumption?

	Yes	No
Public Junior Colleges	36	0
Private Junior Colleges	10	0
Private Senior Colleges	18	1

6. If you had a position open for which you needed a doctorate in a subject matter field, which of the following would you be inclined to favor in your employment?

	DA	PhD	Either
Public Junior Colleges	35	0	1
Private Junior Colleges	7	1	2
Private Senior Colleges	5	8	6

University of Washington: A canvass of 4-year and 2-year college academic affairs officers regarding the utility and acceptance of the Doctor of Arts program in physics yielded generally favorable responses from 22 institutions in the state of Washington. Thirteen community colleges, six private or public state colleges, and three private universities were included. Sixteen of the 22 institutions expressed favorable reactions to the idea of the Doctor of Arts degree for college teaching and to the proposed DA program in physics at the University of Washington.

The question of finances and salary schedules were raised, especially by the community colleges. Three of them stated a preference for master's degree preparation with teaching experience as entirely sufficient for their needs. Two community colleges were uncertain about a commitment to the DA since they felt that prior teaching experience and knowledge of the community college and its clientele were more important than the type of degree.

Even the community colleges which are favorable to the DA degree emphasize that the graduate may be required to teach in more than one discipline, to work with vocational programs, or to participate in adult education programs.

The private universities were favorably inclined toward the DA degree, but one state college expressed a preference for the PhD with a good record of teaching over the DA.

The DA graduate with a superior record and teaching experience of interest to the employing institution would probably be more favorably received than the PhD not so well qualified.

These four illustrative consulting activities indicate widespread interest and acceptance of the DA degree concept for college teacher preparation on the part of all types of institutions with different levels of degree programs. The generally favorable attitudes are not uniformly distributed among the institutional types, however, nor is there agreement on definitions and details even among those favorably disposed. As indicated by the Claremont, Stephen F. Austin, and Washington investigations, within the generally favorable climate of interest in the DA there exist pockets of resistance to and reservations about the necessity for the new teaching degree, its design, the fields and levels to be included, and its marketability and acceptance in hiring and promotion practices in competition with the PhD. Since receptivity is crucial to any new program, this potential for opposition should be subjected to further analysis for clarification of its implications as recommended by the Ralph D. Norman Study of interest and attitudes.

The Ralph D. Norman Study

Norman (1971), in the absence of any extensive reports in the literature, and in the interest of planning for his own institution, conducted a comprehensive study of administrative interest in and attitudes toward the DA degree. Responses were solicited, by questionnaires accompanied by informational documents, from university presidents, or their delegates, in 187 accredited institutions in seven southwestern states served by the University of New Mexico. Four levels of degree-granting institutions were included: 2-year, bachelor's, master's-specialist, and doctor's. The returns from 151 institutions (80.7% return) were geographically distributed and respresentative of the totals in each state. Among the respondents, about one-half were from Texas; about two-fifths were junior colleges and approximately one-fifth represented each of the other three levels.

Statistical tests revealed no significant differences in the responses of university presidents and delegated respondents nor between public and private institutions which would prevent their combination for analyses. Results of the study consisted of total group responses to 10 items reflecting attitudes toward the DA degree. The items were culled from the literature and framed on the basis of judgments as to how critical they were for the development of the DA degree. Chi square (X^2) tests of divergence of responses by institutional level were possible for 9 of the 10 items and proved to be statistically significant for all except 1 of them.

Responses to items indicative of attitudes toward the DA, though not uniformly distributed by level of institution, reveal a majority of favorable reactions to approval of the degree (80.1%); willingness to hire and advance on equal terms (75.5%); inclusion of all fields (74.8%); extension to all levels of undergraduate years (75.2%); adequacy of DA preparation for undergraduate teaching (55.9%); and personally perceived prestige for the DA degree (56.8%). More than four out of five (85.3%) reject the traditional form of the PhD dissertation as essential to preparation for undergraduate teaching. Almost three out of four (72.1%) believe that other faculty perceive the DA degree as being considerably lower in prestige than the PhD.

Within the generally favorable total group responses, the range of responses by degree levels can be illustrated by the following items:

- approval of DA degree (2-year 89.8%, master's 84.6%, bachelor's 79.4%, doctor's 59.4%)

- hire and advance on equal terms (2-year 86.4%, master's 76.9%, bachelor's 72.0%, doctor's 50.0%)
- extend to all four undergraduate years (bachelor's 95.7%, master's 91.3%, doctor's 72.7%, 2-year 60.4%–each tending to reflect own needs)
- no need for traditional PhD dissertation (2-year 94.8%, master's 83.3%, doctor's 80.0%, bachelor's 74.2%)
- perceive DA about the same in prestige as the PhD (2-year 73.7%, master's 56.0%, bachelor's 52.9%, doctor's 30.0%)
- faculty perception of prestige of DA less than PhD (doctor's 93.5%, bachelor's 82.4%, master's 76.9%, 2-year 51.8%)
- training provided by DA more adequate for undergraduate teaching than PhD (2-year 60.0%, doctor's 55.2%, bachelor's 52.9%, master's 52.0%)
- omission of responses about mix of DAs and PhDs if doctorates are to be selected (2-year 64.4%, master's 34.6%, bachelor's 29.4%, doctor's 25.0%)

In general, attitudes of doctoral institutions were least favorable to the development of the DA degree; 2-year institutions were most favorable. A consistent but unexpected pattern in the responses shows bachelor's degree institutions usually closer in attitudes to doctoral institutions. Master's-specialist are more similar to 2-year institutions. The reasons for this alignment which splits undergraduate and graduate institutional levels are not clear.

Two of the most highly significant differences pose a dilemma which may cause some concern. On the one hand, doctoral institutions, representing the level where DA programs are offered, favor them least; would be less likely to hire and advance the graduates on an equal basis with PhDs; assign the DA less prestige; and to a greater degree see other faculty members as perceiving the DA below the PhD in prestige. Guidelines of the Council of Graduate Schools in the United States (1970) and of the American Association of State Colleges and Universities (1970) have been quite explicit that, under these circumstances, doctoral institutions should refrain from developing and offering the DA degree programs. On the other hand, 2-year institutions, although exhibiting the most favorable attitudes toward the development of the DA, appear to be the most uncertain about their need for any type of doctorate degrees. They declined, to a greater degree than the other levels of institutions, to respond to the question of appropriate mix of DAs and PhDs, if doctorates were to be selected. Norman concludes from this omission that the majority of 2-year institutions do not perceive a need for any doctorates at this time. This interpretation is at variance, however, with the position of the California junior colleges presented at the Claremont Graduate School Newport Beach Conference and also needs to be reconciled with the reports of future needs submitted to Stephen F. Austin University by institutions in Texas.

This paradox may be regional, and may not characterize other parts of the United States, but such determination needs to be carefully assessed prior to the inauguration of new programs. Actual programs developed around DA concepts may evoke different reactions than the guiding principles themselves as used by Norman. If the models and program mixes which are proposed correspond to existing needs in undergraduate education, institutional interest and attitudes are more likely to be positive.

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Chapter 8

MODELS AND PROGRAM MIXES

Numerous models and program mixes can be designed to meet the objectives of a professional doctorate for college teachers. The components of the program mix have already been presented:

1. a. Content courses in one or more disciplines. When more than one discipline is studied some unifying principles are required to justify the combination. Such principles include: a common subject matter focus, similar methodology, or a theme or problem to which the several disciplines are relevant.

   b. Integrative interdisciplinary seminars or problem courses which seek to develop the unifying principles of the several disciplines studied.

2. Professional seminars for developing the professional knowledge and skills required in instruction, curriculum development, evaluation, and in understanding the objectives and the characteristics of undergraduate education. Topics from history, philosophy of higher education, psychology of learning, educational technology, and measurement provide the substance of these seminars.

3. Courses, seminars, or individual problems courses developing research methodology and integrative scholarly skills relevant to instruction, course, and curricular development, and evaluation of or research on these. In many cases, these experiences can simultaneously contribute to expansion of knowledge of the teaching disciplines and research or integrative scholarship in them. These competencies should be viewed as directly relevant to teaching, especially in the supervision of undergraduate independent study.

4. An internship involving two or three stages of increasing instructional and curricular responsibility and some involvement in the noninstructional functions of the college teacher.

A program composed of these four parts could degenerate into an unrelated set of requirements. The ultimate integration always is the task of the individual, but that may fail unless some unifying principles are injected at the program planning stage and highlighted throughout the experience. Some continuity of contact with each of the four elements accompanied by a sense of sequence and cumulative accomplishment is essential.

This type of program imposes a distinctly different demand upon graduate advisers than that for the typical PhD program. The latter requires a series of courses and seminars in a single discipline which have already, by number and title, been sequentially organized. Written preliminary examinations after formal course completion, the dissertation requirement, and the final oral defense of it constitute a further nod to sequence which seems to satisfy most students and committees. If a minor or cognate is taken, the courses are generally chosen to buttress an aspect of the major discipline. A teaching assistantship is regarded as a means of support which falls outside of the concerns of the guidance committee. A research assistantship, however, may be integrated into the program because the research activity may yield the dissertation. This oddity–that a research assistantship or fellowship which is usually more highly paid than a teaching assistantship may be incorporated into the doctoral program–demonstrates conclusively that the PhD is regarded as a research rather than a teaching degree. This observation is only slightly attenuated by the occasional example of a research or dissertation assignment directed to solving an instructional or curricular problem.

It is impossible to depict all possible program variations for a teaching degree. We shall suggest a model which is rather highly structured, yet sufficiently flexible to accommodate individual interests and goals. In the comments following the model, some of the points of flexibility will be mentioned. The model is based upon the following assumptions:

1. The individual already has a master's degree in one of the disciplines (or one closely related) which he proposes to pursue as a teaching field.

2. Most students should complete the program in 3 years. (We have assumed a semester organization in the model, but this is incidental.)

3. All elements of the program mix should be carried throughout the 3 years. Even the research project should be viewed as a culminating

integrative task rather than as an independent venture initiated only after course work is essentially complete.

4. Courses in the disciplines, including the integrative interdisciplinary courses, will be equally appropriate for the research-oriented and the teaching-oriented candidates.

5. The guidance committee members, and especially the chairman or graduate adviser, are in continuing contact with the candidate to assist him in interrelating and acquiring maximum benefit from his several experiences.

6. Adjustments and waivers of aspects of the program will be made on the basis of the candidate's prior experience or individual interests and needs.

7. Any attempt to assign credit quotas or percentages to the four elements of the mix is distinctly undesirable. Thus it should be possible to avoid pointless arguments as to whether or how much credit should be assigned to the internship, professional seminars, etc.

8. The program should be defined in terms of attainment of the competencies required for successful college teaching. The suggested pattern of experiences is only a means of attaining these competencies; the acquiring of the competencies rather than slavish, routine completion of requirements should be the basis for conferring the degree. The 3 years suggested should be regarded as a maximum period for most individuals rather than as a minimum for all.

9. Programs embracing two or more disciplines should not be viewed in reference to their adequacy in providing mastery of the several disciplines, but rather as justified by the specification of unifying principles, problems, or themes and by the type of instruction and institutional program toward which the candidate is oriented.

10. Attempts to compare the quality of the professional undergraduate teaching degree (however designated) with the research-oriented PhD degree can only be harmful to the development of a sound program. Comparisons with professional degrees, such as the DBA or MD, would be more to the point.

11. The designation of the degree as a Doctor of Philosophy or a Doctor of Arts is largely immaterial and more dependent on local traditions and

> mores than on arbitrary sets of regulations or requirements. (Our personal preference is to retain the PhD as a research-oriented degree and designate the teaching degree as a DA, simply because our observations of attempts to divert the PhD to this latter role suggest that only half-measures falling far short of what is required will result.)

The program should produce the following competencies:

1. An individual sufficiently knowledgeable of two or more disciplines to organize and offer undergraduate courses at lower or upper divisional levels. This includes the possibility that one discipline is buttressed by closely related study in one or more additional disciplines.

2. An individual capable of organizing and offering problem-oriented or theme-based courses at lower or upper divisional levels.

3. An individual capable of working with individual students in the planning and completion of independent study projects, whether disciplinary based or problem oriented.

4. An individual sensitive to individual differences in ability and motivation and capable of adaptations in content and methodology to adapt to these differences.

5. An individual who has sufficient grasp of the goals of undergraduate education and of the career potential of various discipline programs to advise students on their programs and also to interpret his own courses in relation to current social issues and personal and career development.

6. An individual who, as he participates in college curriculum and policy committees, will seek for decisions and policies which strengthen the total educational program of the college.

7. An individual who is sensitive to both cognitive and affective outcomes and views the cumulative and integrative aspects of the total undergraduate experience as a personal responsibility.

8. An individual whose relationships with students and colleagues are conducted within a framework of professional responsibilities and ethics.

9. An individual who views his own success as a teacher, as determined by the learning evidenced by his students.

No model can insure the development of all these competencies, but the following model provides a range of relevant experiences which is more likely to evoke the desired results than the traditional disciplinary- and research-focused approach characteristic of the majority of PhD programs.

General Program Structure and Sequence of a Program for College Teachers

First Year:

	First Semester	*Second Semester*
A.	Discipline 1 Discipline 2[1]	Discipline 1 Discipline 2[1]
B.	Problem- or Research-Oriented Seminar 1	Problem- or Research-Oriented Seminar 2

(Developed upon the base provided by disciplinary courses, with the goal of seeking a meaningful application and possible integration of Disciplines 1 and 2 or of relating discipline(s) to current scene)

C. Teaching internship, stage 1, sharing responsibilities with an experienced teacher–reading papers, assisting in evaluation, occasional responsibility for class sessions, etc.

D.	Professional Seminar 1[2]	Professional Seminar 2[2]
	Course objectives, teaching methodology, learning processes, educational technology	History and philosophy of higher education, undergraduate curriculum patterns

(Sequence of seminars closely correlated with teaching assistantship for development, supervision, and evaluation of professional skills required for teaching and related professional activities)

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[1] Second and possibly third discipline should be selected because of logical or other actual or potential relationships. Pattern may be modified to place most of the emphasis on a single discipline.

[2] There are many ways of organizing these professional seminars. The patterns given are only suggestive.

Second Year:

A.	Discipline 1 Discipline 2 or 3[1]	Discipline 1 Discipline 2 or 3[1]
B.	Problem-Oriented Seminar 3	Problem-Oriented Seminar 4
C.	Teaching internship, stage 2, major responsibility, with supervision for teaching a freshman or sophomore course	
D.	Professional Seminar 3	Professional Seminar 4
	Advising, student characteristics and goals, career possibilities	Curriculum development and evaluation procedures, professional ethics
E.	Written preliminary examination on knowledge of content and research methodology of both disciplinary and professional materials	

Third Year:

A. Definition and completion of research project

B. Internship, stage 3, full responsibility for a course (possibly interdisciplinary in nature) or direction of independent study projects of 2 or 3 students. Preferably in a situation (another institution or college) not dominated by the graduate faculty who direct the disciplinary aspects of his program.

(Internship and research project may be related)

C. Participation in one or more faculty committees concerned with academic problems or policies (desirable but optional)

D. Final oral examination over research project, teaching competencies, and insights

This program structure can be adjusted to individual needs and goals. For one who has already had several years of successful teaching experience (which should be assessed rather than simply assumed), the internship experience might be moved immediately to an advanced level or greatly modified. An individual primarily interested in a single discipline might restrict his study to that discipline, taking only such courses from another field as would serve to broaden his understanding of that discipline's role in the careers of his students. An individual with extensive background in education, psychology, or sociology might find certain aspects of the professional seminars repetitive and boring. More specific illustrations will make these generalities clearer.

The prospective teacher of mathematics will find his potential with undergraduates greatly increased by incursions into computer science, statistics, econometrics, psychometrics, and sociometrics. Most mathematicians are relatively ignorant of the increasing use of quantitative methodology and mathematical models in the social sciences.

Individuals interested in teaching one of the sciences will profit (as well as their students) by some study of logic, philosophy, and history of science, and the consideration of the social impacts of science and technology. Prospective teachers of any of the social sciences should have some knowledge of statistics and computer science. Every undergraduate teacher should have been involved in several experiences which are problem oriented or which explore interrelationships of disciplines. Seminars, problems, or even practical experiences may achieve the desired results. There should not be a single prescription for all.

This blueprint for a change in strategy is based upon premises about what college teachers do and about the dimensions and interactions involved in teaching and related activities. It responds (as we interpret them) to the standards and guidelines developed by the Council of Graduate Students (COGS) and the American Association of State Colleges and Universities (AASCU). It differs, however, in many particulars with the traditional PhD programs and with the Doctor of Arts programs currently under development. COGS states that a "second-class" degree should be avoided by the provision of a program of such rigor as to win respect among the older established doctoral degrees. Conditions necessary for "first-class" status require 3 years of graduate study, with admission, retention, and degree standards as rigorous as those prevailing for a PhD program. Under no circumstances should a degree for college teachers be an attenuated PhD. Where the PhD and DA programs exist in the same department, the same graduate courses may be used (2). AASCU, in promoting the DA degree and encouraging consideration by member institutions capable of developing a defensible program, subscribes to the same principles as COGS related to insuring "first-class" status (1, 2).

We believe there should be more concern about developing a first-class degree for college teaching than for setting standards to insure comparability with a degree emphasizing research. The pattern presented here for preparation of college teachers resembles the traditional PhD program in requiring 3 years of graduate study. Standards of admission, retention, and completion should be of comparable rigor. To some extent, with variations among the disciplines, some of the same graduate courses may be involved. The pattern differs in almost every other respect in basic premises, in design and form, in courses and subject matter, in scholarship and research, in professional experiences, and in available options and alternatives. The point of departure for this definition lies in what the college teachers actually do rather than in subject matter specialization necessary for research.

The design and form follow from the objectives. The program as recommended includes disciplinary specialization, study of related disciplines, professional preparation, the internship, and a scholarly research project rather than the narrower design emphasizing a discipline and addition to it through research. Some seminars are designed with an interdepartmental or interdisciplinary approach. The emphasis is on broad academic experience and on seminars focusing on integrative processes and contemporary problems. Scholarship and research involve problem solving and applied research related to teaching, rather than discovery of new knowledge in the discipline. The professional experiences provide courses, seminars, and an internship for attaining the professional knowledge and skills required for college teaching. Supervised opportunities to test theories in practice can be provided in these experiences. The suggested pattern is sufficiently flexible to provide individualized options in a variety of institutional types. This contrasts markedly with the single pattern preparation using the same courses as those required of all PhDs and providing very limited adjustment through elective seminars or other slight modifications.

Comparisons between this recommended blueprint and the DA programs currently under development are difficult due to the limited number of programs beyond the proposal stage and the absence of any common pattern to suggest either agreement among the institutions or acceptance of the guidelines of COGS and AASCU (4, p. 38). An attempt to collect programs in the spring of 1971 indicated that the number of programs in operation was still limited, and the models unclear and varying in nature. While making allowances for the limitation of the small sample, major differences are apparent in program length, basic premises, design and form, courses and subject matter, professional experiences, and available alternatives. Some DA programs require less than 3 years of graduate study and resemble specialist degree programs or intermediate degree programs, such as Master of Philosophy and Candidate in Philosophy. Such programs risk "second-class" status, as defined by COGS and AASCU.

Some DA programs are based on the premise that essentially the same departmentally-based courses required for the PhD will prepare for all college teaching, regardless of differences in undergraduates, types of programs, and varieties of institutions. There is no indication that educational experiences in the programs are directly related to the full range of roles and responsibilities in college teaching and related activities. Design and form, in some cases, and professional skills, internship, and scholarship research are related to instructional or curricular problems, but these elements in the DA program are much more narrowly conceived than the model suggested here, and they fail to emphasize integrative processes and allow for interdisciplinary approaches. These DA programs tend to be much like the PhD program and, when developed on a departmental basis, allow limited interdisciplinary possibilities. Eighty percent of the programs under development are departmentally based (3). The disciplinary component is much more narrowly specialized and limited in DA programs of less than 3 years of graduate study than in our model. Professional experiences in the DA programs are also shorter, more compressed, and less extensive than in our model in providing for the full range of teaching roles and functions. The professional courses specified tend to be drawn from psychology, and are not designed especially for college teacher preparation. Limited attention is given to methodology, evaluation, educational technology, independent study, and individually designed programs. Interdisciplinary possibilities for program planning needed to meet individual preferences and prepare for different teaching situations and institutions are lacking in most present DA programs.

There is an immediate need for a reassessment of the objectives of the DA programs in relation to the roles and functions of college teaching and in relation to contemporary developments in undergraduate education in different types of institutions. A review of existing programs and proposals provides convincing evidence that the firm grip of the department on doctoral programs must be broken and the shadow of the PhD displaced by new light on the requirements of undergraduate teaching before either the DA or any other graduate program modification can contribute significantly to professionalizing and improving college teaching. That is precisely what the model presented here proposes.

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Appendix A

DESCRIPTIONS OF SOME SPECIFIC FEATURES OF 11 CARNEGIE-GRANT DOCTOR OF ARTS PROPOSALS

Many institutions have taken the first step of recognizing the Doctor of Arts degree by using it as a basis for program proposals for the preparation of college teachers in the various arts and science fields. The Carnegie-Mellon University programs, established in 1967 with a Carnegie Corporation grant, the policy statements of the Council of Graduate Schools in the United States and of the American Association of State Colleges and Universities in 1969 provided the impetus for a more widespread consideration of the new degree.

Additional Carnegie Corporation grants for DA planning and development, in June 1970, went to a number of different types of institutions: Ball State University, *Brown University, *Claremont Graduate School, *Dartmouth College, *Idaho State University, *Lehigh University, *Massachusetts Institute of Technology, *The University of Michigan, *State University of New York at Albany, *Stephen F. Austin State University, *Washington State University, and the *University of Washington.

Materials made available from the 11 starred institutions indicate that programs are currently at various stages of development as to details and as to the explicit integration of the concept of the DA into the proposals. Programs are expected to be in flux and subject to change during a number of experimental years. More definite and consistent patterns may then emerge to fully characterize the distinctiveness of the DA degree in comparison with other doctoral degrees. Meantime, it is possible to gain tentative information about these 11 institutions regarding such features as: (1) current status of programs; (2) areas of study represented; (3) admissions; (4) objectives of programs; (5) program designs; (6) duration of programs; (7) role of advisory committees; (8) foreign languages and other teaching and research tools; (9) examinations; (10) integrative and flexible aspects; (11) distinctive program features; and (12) evaluation of program outcomes.

Current Status of Programs

Six of the 11 Carnegie-grant institutions, and possibly a seventh, will have graduate students enrolled in DA programs in 1971-72. The University of

Washington expects the first DA graduates in German Studies by the end of 1971-72. Claremont Graduate School, Idaho State University, Lehigh University, Massachusetts Institute of Technology, the University of Michigan, and possibly the State University of New York at Albany, will admit their first students in fall 1971. SUNYA admissions are contingent upon approval during the summer of 1971 from the Trustees of SUNY and the Regents of the University of the State of New York in the face of a 1-year moratorium on the creation of new doctoral programs for New York State.

Brown University has enabling legislation completed in spring 1971. Stephen F. Austin State University requires authorization to initiate doctoral level programs from the Coordinating Board of the Texas College and University System. Washington State University and Dartmouth College programs are in the final stages of development; implementation of a specific proposal requires final authorization by faculty and trustees.

Areas of Study Represented

The following areas of study are represented in three categories: already in progress, starting fall 1971, and under development to be offered later.

In Progress	*Starting Fall 1971*	*Under Development*
German Studies (Washington)	Biological Science: Biology (Idaho State) Botany (Claremont)	Biology (Stephen F. Austin)
	Business and Economics (Lehigh)	Chemistry (Washington State)
	Economics (SUNYA, possibly)	Classics (Brown)
	English (Idaho State, Michigan, SUNYA, possibly)	English (Brown, Stephen F. Austin)
	Government (Idaho State)	French (Brown)

History and Government
(Lehigh)

Humanities: Music
(Claremont)

Mathematics
(Idaho State)

Modern European
  Languages: French
  Studies
(Claremont)

Physics
(SUNYA, possibly)

Political Science
(Claremont)

Psychology and a Natural
  or Social Science
(Lehigh)

History
(Claremont, Stephen
F. Austin)

Humanities
(Dartmouth)

Linguistics
(Claremont)

Mathematics
(Stephen F. Austin,
Washington State)

Modern European
  Languages: German
  and Spanish
(Claremont)

Physics
(Washington State)

Political Science
(Brown)

Spanish
(Brown)

Speech
(Idaho State,
Washington State)

Admissions

Applications for admission to DA programs are made to the Graduate School. They are referred to the DA faculty selection committees in the departments for review and recommendations to the Dean of the Graduate School. All institutions emphasize quality and invoke the same criteria and standards as for the PhD. Each admission is considered individually but certain factors are weighed in reaching the admission decision. The criteria usually include: (1) graduation from an accredited college or university with an appropriate undergraduate major; (2) a cumulative overall grade point average of 3.0, or in the last two undergraduate years; (3) a specific performance on the Graduate Record Examination; (4) letters of recommendation citing the potential of the applicant for college teaching; and (5) a personal interview. Other relevant factors for a particular program may be added:

Claremont Graduate School: interested only in full-time students, preferably without prior college teaching experience.

Idaho State University: admissions directed to prospective teachers for junior colleges and 4-year colleges though the English program grants a priority to experienced, successful teachers; 10 fellowships annually in each of the four programs are anticipated.

Lehigh University: looking for strong preparation in a second discipline.

Massachusetts Institute of Technology: admission to the program requires admission to a graduate department through the normal M.I.T. procedure. The regular M.I.T. graduate school application material for the PhD program is accompanied by a statement of interest in the program and career objectives.

The University of Michigan: seeking experienced 2-year and high school teachers with evidence of their strong commitment to undergraduate teaching in community colleges.

Stephen F. Austin State University: considering an essay as a sample of ability to write possibly on a topic to aid in selection for college teaching.

State University of New York at Albany: restricted to market demands for doctoral degrees; looking for beginning graduate students or those with master's degrees who lack any substantial experience in college teaching. Preference for disadvantaged, women, and graduates of 2-year colleges, all other factors being equal.

Washington State University: for chemistry limited to five students a year for the first few years; require MS degree with research thesis.

University of Washington: admissions to German Studies limited to those with the MA II for experienced teachers and to those meeting proficiency standards in German.

Objectives of Programs

The DA degree is conceived as different in purpose and character, though of the same high quality as the PhD. The central focus is on preparation for teaching rather than research. Most of the programs share broad and comprehensive objectives related to preparation for undergraduate teaching in the 2-year and 4-year institutions and to the future needs of these institutions. Each emphasizes a slightly different aspect in its approach to the objectives:

Brown University: for the purpose of facilitating the development of people capable of making distinctly original and creative applications of the materials of one or more academic disciplines.

Claremont Graduate School: to structure a program to permit continuity between the training college teachers receive and the actual demands made upon them as teachers.

Dartmouth College: create teacher-learners who are capable of using their skills to continue opening up new areas of learning for themselves and their students.

Idaho State University: to meet the need for a program which stresses the importance of preparation for undergraduate instruction and which emphasizes mastery of the tools most often required of undergraduate instructors, especially for the junior colleges and 4-year institutions in higher education.

Lehigh University: to emphasize breadth of subject matter across disciplines or combinations of disciplines while developing the individual's ability to communicate the subject matter.

Massachusetts Institute of Technology: to provide a small number of PhD candidates with direct preparation for college teaching in a program coordinating established interdepartmental procedures to accomplish this goal.

The University of Michigan: to prepare English teachers for community colleges in a program designed primarily, but not exclusively, for those in urban settings with open-door policies.

Stephen F. Austin State University: to develop an entirely new degree in purpose and objectives with emphasis in breadth for the 2-year and 4-year colleges, and for the university and elsewhere for positions of educational leadership.

State University of New York at Albany: broadly directed to preparation of college teachers in the 2-year and 4-year institutions and to college teacher educators in the universities.

Washington State University: to emphasize a broad background to training in all areas to teach modern chemistry with an emphasis on research, to direct undergraduate research which is a part of teaching.

University of Washington: to provide contemporary emphasis and approaches, to arouse interest and motivation in German Studies to prepare college teachers to carry out complex undergraduate teaching functions, especially those community college teachers already in the field; to prepare college physics teachers for undergraduate teaching in the universities, especially for nonscientists, future teachers, doctors and other professionals for teaching in the 4-year colleges and for the 2-year colleges with students of wide-ranging abilities in diversified programs.

Program Designs

The program design develops from the objectives and from modifications of the existing PhD which serves as a point of reference in a parallel or complementary relationship. The essential elements suggested by the policies and guidelines of COGS and AASCU are included. All share the program features of: broadly arranged academic course work and seminars in a major field and related emphasis, courses and seminars in professional preparation for college teaching, a teaching internship, research, and examinations.

Brown University: advanced study and practice, doctoral work of two interdependent parts in combination usually, experimental field experience and formal project.

Claremont Graduate School: a curriculum component, DA Colloquium, teaching tool requirement, internship, research project, and examinations.

Dartmouth College: general directions and emphases include a teaching apprenticeship; replacement of traditional disseration with an essay, monograph, or creative effort; and stress on broad comparative or interdisciplinary study, interaction with the creative and performing arts and encouragement of an international dimension.

Idaho State University: broad rather than specialized training, flexible curricula, attention to trends in higher education, candidacy examinations, and a supervised internship.

Lehigh University: a sensitivity core, academic content internship (bidisciplinary encouraged), research, and examinations.

Massachusetts Institute of Technology: mastery of a discipline, demonstrated research competence involving a thesis in educational or interdisciplinary research to enhance more directly subsequent teaching, the integration of traditional PhD program activities with supervised teaching, and the design and trial of new curricula.

The University of Michigan: a newly designed DA core, elective courses in English and cognate, internship, research project, and integrative examinations.

Stephen F. Austin State University: a newly designed curriculum includes subject matter in broad arrangements, professional preparation by the departments, an internship–externship, research project, and examinations.

State University of New York at Albany: broad subject matter selection in a major field, cognates or supporting courses, departmentally supervised college teaching apprenticeship courses, an internship, research project, and examinations.

Washington State University: chemistry and related fields, professional preparation, internship, research, and examinations.

Duration of Programs

All DA programs require a minimum of 3 and a maximum of 4 years of approved graduate study and internship. Some programs can be completed in the minimum time; others require closer to the maximum. The University of Michigan, State University of New York at Albany, and Stephen F. Austin University illustrate the former; the others are described as generally extending over a 4-year post-baccalaureate period.

Role of Advisory Committees

Individual programs are uniformly planned in consultation with a departmental adviser and approved by a doctoral supervisory committee, usually numbering four. The composition of the committee includes representation from the major and related fields and a member of the DA departmental coordinating committee. The committee typically assumes responsibility for advising DA students, supervising internships and research, and integrating the elements of the program to assure the development of a unified coherent program related to professional aims and interests. Examinations are administered by the supervisory committee, including the final defense of the research, after which certification of the completion of all degree requirements is made to the Graduate School.

Foreign Languages and Other Teaching and Research Tools

All programs specify or imply the requirement for understanding and proficiency in using basic research tools and techniques appropriate to their disciplines. Foreign language proficiency is not a DA degree requirement. Selection of foreign language as a tool subject is a matter of supervisory committee approval of an individual choice or its relevance for a particular discipline. Only three institutions specify required proficiency examinations. Claremont Graduate School requires the passing of examinations in two appropriate teaching tools. For candidates in their Humanities program, one of these must be the passing of reading examinations in French, German, or Italian. Washington State University requires the passing of a proficiency examination in one appropriate tool subject which may be foreign language, computer programming, or educational tests and measurements. Stephen F. Austin requires the demonstration of competency in at least one tool of research approved by the committee and selected from: Bibliography and Research, Old and Middle English, Statistics, Mathematics of Research, Computer Programming, and Foreign Languages. In most cases, the Dartmouth program anticipates a second foreign language in addition to the synthesizing methodologies of library study.

Examinations

Examinations tend to follow the same sequence and pattern as those for the PhD. Initial qualifying examinations occur early for advisory purposes in individual program planning. Comprehensive examinations covering the subject matter fields are usually held upon completion of the course work at the end of the second doctoral year, and the results determine candidacy for the degree. The final examination over the research and general preparation, when all other requirements have been fulfilled, determines the recommendation for the awarding of the degree. A few variations within the general pattern are developing and more can be expected. The State University of New York at Albany and Stephen F. Austin State University programs emphasize the integrative approach to comprehensive examinations. Examinations will be planned to reflect mastery of courses actually taken and their relation to the special emphases of the DA program in analysis, synthesis, and teaching as evidence of readiness to begin research and the internship. The University of Michigan program uses processes of review. At the point of advancing to DA candidacy, examinations written and oral, test for preparation to undertake research and ability to synthesize prior course work and teaching experience with research aims. The written part of the examination involves the preparation of essays on two or three questions within a month while the oral consists of a further probe of relevant research and the cognate field. The final examination, or DA review, proposes that one person external to the university be added to the committee for the final defense of the research and general preparation.

Integrative and Flexible Aspects

Elements of the DA programs are integrated in varying degrees to promote analysis and synthesis. Subject matter areas are integrated through interdepartmental, interdisciplinary, and multidisciplinary programs (Claremont Graduate School, Dartmouth College, Lehigh University). Subject matter content and method are integrated through core courses and team teaching (The University of Michigan, Stephen F. Austin State University). Comprehensive examinations are designed to emphasize integration between subject matter and the analysis and synthesis characteristics of the DA (Stephen F. Austin State University, State University of New York at Albany). Flexibility is provided by the availability of choices and options for individual program planning. Some programs, especially in the sciences, are more structured and prescribed than others. All provide some flexibility of choice in electives in the major field and related areas, in use of directed or independent study, and in the selection, development, and report of the research topic.

Distinctive Program Features

Institutions interested in developing DA programs have been encouraged to take experimental approaches to graduate education. Some have responded with innovative features for higher education; others have developed traditional features in new ways to lend a distinctiveness to their programs.

Brown University: the programs which develop under the creativity principle are expected to be different from other DA programs. The description of the doctoral work, the field experience and project departs from the usual internship and research project description.

Claremont Graduate School: the completely interdisciplinary and multidisciplinary approach to program planning distinguishes the Claremont programs. The institution-wide administrative and operational structure is the most thoroughly developed and involved.

Dartmouth College: plans call for predoctoral apprenticeship and postdoctoral teaching at Dartmouth College for a substantial number who will teach in the normal rank of assistant professor for the usual term of 3 years after receiving the degree. This commitment is expected to represent a powerful argument against the contention that the DA is a "second-rate" degree.

Idaho State University: the most distinctive aspect of the program is the absence of the research project and report in the general design for the DA degree.

Lehigh University: the programs are distinctive because of the sensitivity core with its emphasis on interpersonal relationships, empathy, and the affective elements of learning. A second unusual characteristic is the previous background in two related areas frequently in demand in combination.

Massachusetts Institute of Technology: compared with the other nine Carnegie-grant programs, the most unexpected feature of the M.I.T. program for college teaching is the adaptation of the PhD requirements for this purpose, rather than the creation of a new degree of different purpose and design.

The University of Michigan: the program represents an excellent example of the appropriate approach to curriculum development and design of a specific program. A thorough analysis of the needs of a particular type of institution, the urban community college, and its students resulted in the core content and a program design developed without reference to the PhD program.

State University of New York at Albany: the most distinctive feature is the development of the internship according to the medical internship model. It represents the most detailed and advanced planning of any of the institutions.

Stephen F. Austin State University: the programs represent the first doctoral programs to be offered along with the EdD for administration and supervision. They are distinguished by their innovative approach to the creation of new courses and by their use of team teaching, tandem courses, and independent study. A concurrent reshaping of undergraduate programs and integration of master's programs accompanies the development of DA programs requesting authorization from the Coordinating Board of the Texas College and University System.

Washington State University: the chemistry program justifies an unusual emphasis on research as necessary to convey the nature of chemistry and to direct undergraduate research as an important part of undergraduate teaching in modern chemistry. DA and PhD programs are identical through the Master of Science with research thesis.

University of Washington: the program in German Studies follows an interdepartmental approach to the study of German civilization. It is directed toward experienced teachers who are graduates of the MA II for experienced teachers.

Evaluation of Program Outcomes

All programs are established on a provisional basis for a specified number of years during which modifications and adaptations are expected. Evaluation of program outcomes and recommendations are requested upon the conclusion of the experimental period. If systematic evaluation is to be carried out, the criteria to be considered represent a part of the initial program objectives. Aside from opinions, reactions, "feedback" and follow-up of graduates on their first professional jobs, it is not clear whether systematic evaluation is a part of the program plan.

Brown University: programs are to be reviewed and evaluated with recommendations to Faculty and Graduate Council by June 1976.

Claremont Graduate School: close surveillance and supervision of programs will continue to be necessary to insure high standards and quality training.

Idaho State University: continuous evaluation of the program is anticipated as it evolves; considered valuable to know how the training for the degree was perceived by graduate students in other programs, as well as in the DA program, by faculty and by cooperating institutions. Results should provide insights for modification and improvement of the program. Follow-up of DA graduates in the field and on the job will determine how they are perceived by employers, colleagues, and students and how effectively they are performing their teaching assignments.

Lehigh University: specific competencies and educational goals analyzed; systematic evaluation in regard to these goals anticipated through feedback in the sensitivity core.

State University of New York at Albany: program authorized for 7 years–to September 1978. Provisions are included for follow-up of graduates to collect information to evaluate the success of the DA curricula. Appraisal of programs and effectiveness of graduates will be assembled and reviewed with appropriate recommendations to the Regents.

University of Washington: the German Studies program is an experiment requiring close supervision. During the next few years, there will be constant evaluation, both by graduate students in it and staff with teaching assignments. The evaluation will count on "feedback" and critical comment also from the cooperating colleges. Follow-up of graduates in their first teaching assignments will provide another source of program improvement.

Conclusion:

Most Doctor of Arts degree programs have been developed under the constraint of using the PhD model as a point of departure. This is done to enhance the status and prestige of the new degree and to make use of existing personnel, facilities, and resources of the department. The major characteristics of the PhD programs have been modified to achieve greater breadth in the discipline, integration with related disciplines, and problem-oriented research.

A few existing or especially designed graduate courses with an internship have been added. This approach to curriculum development implies that a curriculum to support the DA concept will gradually emerge as "feedback" and follow-up indicate the substance and direction of modifications. One may question whether a curriculum of unity and coherence will evolve from this approach.

Few institutions plan the DA in relation to major educational goals to be achieved so that a unified coherent program may result. Most programs state broad general objectives, but specific objectives must be inferred from content and course descriptions instead of vice versa. Preliminary planning is rarely accompanied by a set of carefully developed and detailed educational objectives whose achievement can be systematically evaluated to determine their successful accomplishment.

Professional preparation for college teaching, even in those programs which refer to the full range and the variety of roles and functions, needs to be more broadly conceived, explicitly defined, and expanded. The professional training tends to concentrate on those functions related largely to subject matter teaching, the classroom, course design, and preparation of course materials in the department. Less often is there any reference to advising and counseling (as in the Michigan, Stephen F. Austin, and SUNYA intern-externships) or to affective learning and its interaction with the cognitive and the impact on communications (as in the Lehigh sensitivity case). Rarely is there any reference to measurement, evaluation, curriculum development in the larger context than the department. Faculty ethics, responsibilities to the institution, and the career responsibilities of the college teacher to himself in his profession are ignored. However, the fuller definition of professional preparation does not simply imply the addition of more courses and seminars. Other educational experiences and opportunities for interaction–especially those involving role modeling–are equally important. University-wide experiences in professional preparation are necessary to balance the narrower perception from the departments.

Planners of DA programs are fully aware that their task consists not only of planning significant educational experiences, but also of arranging the program elements to lead to gradual mastery of the roles and functions of college teaching. The elements must be integrated so that each enhances and reinforces the others. A major commitment of personnel, facilities, and resources will be required for its accomplishment.

Appendix B

GENERAL PROFILES OF 11 CARNEGIE-GRANT DOCTOR OF ARTS PROPOSALS WITH BRIEF COMMENTARY

Brown University

Legislation passed by the Faculty and Board of Fellows in spring 1971 authorized departments to submit Doctor of Arts program proposals to the faculty through the Graduate Council. The degree, its purposes, and broad general outlines were authorized for an initial period of 5 years to be reviewed and evaluated with recommendations to the Faculty and Graduate Council by June 1976.

The purpose of this DA program is to facilitate development of people capable of original and creative applications of the materials of one or more academic disciplines. While the creative arts will be obvious sources of DA programs, original and creative application is not limited to artists. This definition allows DA programs wherever they have relevance and can be instituted as complementary to departmental PhD programs. Program proposals are expected to show how the purposes of the suggested DA are distinct from those of the PhD. French, classics, English, Spanish, and political science departments are engaged in developing program proposals for approval.

The awarding of the DA degree implies broader professional objectives than college teaching alone. Programs of study are to be planned in consultation with the department concerned and approved by the Graduate Council.

General requirements specify: (1) a minimum of 3 years of graduate study in an approved program; (2) formal admission to candidacy; (3) a doctoral work, consisting of (usually in combination) experimental field experience and a formal project; and (4) final certification. Additional requirements may be specified with approval of the Graduate Council. Candidacy is determined by the department and certified to the Graduate Council upon completion of all requirements necessary for beginning the doctoral work.

The doctoral work typically has two interdependent parts: (1) substantial experimental field experience, and (2) a formal project written or otherwise recorded. The project must demonstrate high intellectual achievement and represent the creative and original application of significant materials. Projects may include works of art or artifacts, original programs or designs, speculative essays, original syntheses or integration of ideas, and must be approved by the candidate's faculty director and the Graduate Council.

Commentary

The description of purposes and broad general outlines authorized for the DA degree does not specifically relate to preparation of college teachers. The application of the creativity principle in program proposals should reveal teaching roles and functions from which the academic subject matter and interrelated experiences emerge. No creative arts fields were listed as under development, although this area was mentioned as the most obvious for application of the creativity concept for the DA.

The requirement of review and evaluation, with recommendations by June 1976, implies the necessity for systematic collection of data to determine whether objectives have been achieved.

Claremont Graduate School

Approval has been given for interdisciplinary and multidisciplinary Doctor of Arts programs in Modern European Languages (French studies), Humanities (music), Biological Sciences (botany), and Government. Claremont Graduate School will admit a small number of graduate students to the programs in fall 1971. The DA program is designed to meet a growing need in 2- and 4-year colleges for undergraduate teachers. It is distinctly different from existing PhD programs, though qualitatively comparable. Emphasis is on a teaching rather than a research curriculum. The DA program is being established to permit continuity between the training college teachers receive and the actual demands made upon them as teachers in community, regional, and private colleges. The program requires at least 3 and generally 4 years of full-time graduate study and intern teaching, and differs substantially in its objectives compared with the PhD and EdD.

Special features of the program emerge from the objectives and are designed to prepare for college teaching in ways facilitated by the unusual arrangements and relationships among the Claremont Graduate School, Claremont University Center, the Claremont Colleges, and their affiliated institutions:

1. The curriculum is constructed to provide for breadth of knowledge, interdisciplinary and multidisciplinary approaches, and subject matter relevant to that taught by the prospective teacher. Course selection will be broader within a particular discipline than for the PhD. Research tools and foreign languages will be functional. Comprehensive examinations will be broader than those for the PhD, but no less demanding.

2. A 2-year DA Colloquium will be required during the first 2 years of training.

3. A 1-year teaching internship will provide the student with a different type of experience than generally received as a teaching assistant.

4. A research project requires demonstration of scholarly, analytical, creative, and expository skills.

Doctor of Arts programs are subject to change on the basis of recommendations of the Claremont faculty and faculty from the cooperating institutions. Courses and seminars in the major disciplines and related work in supporting disciplines require the first 2 years of full-time study followed by comprehensive examinations and evidence of mastery of two appropriate teaching tools. Specific disciplines may require different types of study and new concepts of content not limited to formal course work. Study abroad, field experiences, and summer work may be among these.

The DA program in Modern European Languages permits study in French, German, and Spanish with five areas of emphasis: Humanities, Creative Arts, Social Sciences, Linguistics, and a second language. This interdisciplinary approach permits training in in-depth studies of broadly defined major fields within cultural-geographic areas rather than highly specialized training in literary history and criticism. The Humanities (music) program brings together the history of music, history of art, and history of literature in a multidisciplinary arrangement combined with analytical and technical skills in music. The Government program stresses the areas of American government and politics, comparative government and politics, and urban studies for breadth and comprehensiveness. Biological Sciences (botany) include two courses each semester in botany and one course each semester in the

Biological Sciences over the 2-year period or full-time graduate study. Modern European Languages (French studies) and Humanities (music) require study abroad in addition to the internship. Biological Science (botany) and Government require field experience or community work in addition to the internship.

The noncredit DA Colloquium, designed and supervised by the DA Administrative Committee, extends through the first 2 years of the program. An exception is made for students in French studies and other programs involving study abroad who are obligated for only 1 year. The emphasis of the colloquium is in the history and philosophy of higher education, psychology of learning, observation of junior and senior college teaching, and a general introduction to the problems of various types of institutions of higher education.

The teaching internship, scheduled for the third year, is an assignment to a junior or senior college working with a master teacher or teachers. The intern will experience the whole gamut of problems from routine tasks to course preparation and student response. He will be involved in the different teaching procedures of lecturing, directing seminars and discussion groups. He may have the opportunity to observe and handle tutorials, independent reading, and directed research. All interns attend the Internship Colloquium to exchange ideas and to discuss problems encountered with experienced faculty from the training institutions and master teachers of the interning institutions. Evaluations are made several times during each semester and at the end of the year. Faculty, student, administrator questionnaires and site visitations are used in evaluation. The candidate must distinguish himself in the internship before he can complete the program and receive the DA degree.

A written research project with an emphasis in collecting and disseminating existing knowledge should be completed by the end of the third year. The project, supervised by the candidate's committee, should focus on problems related to teaching of a subject, research on pedagogical problems, or synthesizing of materials useful for college teaching. The project may involve team research, field work, oral interviewing or interpretive synthesizing not usually encountered in the dissertation research of the PhD.

Administrative supervision of the planning phase of the DA programs is provided by the DA Planning Committee, consisting of the Dean of the Claremont Graduate School, the Associate Dean, the Director of the DA program, and a representative of each of the disciplines with programs under development. In this phase, the Planning Committee (1) set admissions standards, (2) established program requirements, (3) reviewed programs designed by the disciplines, (4) reviewed applications for admission, (5) interviewed selected applicants, and (6) made final recommendations on admissions and fellowships. Once the program becomes operational, the DA Planning Committee continues to function as the DA Administrative Committee in charge of: (1) developing and organizing the DA Colloquium; (2) providing general surveillance of individual programs; (3) serving as liaison between training institutions and interning institutions; (4) supervising the teaching internship; (5) making arrangements for and supervising field and overseas experiences; (6) recruiting students for the DA program and seeking fellowship funds; and (7) advising and supervising candidates at various stages of their work.

Commentary

Claremont Graduate School programs exemplify the most thoroughly and effectively developed institution-wide approach to program planning, administration, coordination, and evaluation for greatest impact. Breadth and comprehensiveness characterize the interdisciplinary arrangements in all programs. Integration is achieved in such a way as to avoid the risk of shallowness and superficiality which some people associate with cross-disciplinary efforts. Systematic evaluation should be possible according to the specific criteria which indicate the successful achievement of the educational goals.

The Claremont programs are limited to full-time students and directed primarily, though not exclusively, to those without prior teaching experience. Except for observation, as part of the DA Colloquium, there appears to be no actual contact with teaching and related activities until after the second year and completion of qualifying examinations. This represents a departure from most DA programs, and may require attention after the content of the DA Colloquium has been fully developed.

Dartmouth College

The anticipated Doctor of Arts degree program at Dartmouth College represents long-range educational planning and a continuing effort to extend graduate education into the Humanities. A number of developments during the 1960s affected thinking about the graduate programs in the Humanities in varying degrees. Among these influences were: (1) the new center established for comparative and interdisciplinary studies in the Humanities; (2) increasing awareness of the dependence between the work of the center and foreign languages; and (3) the establishment of a Center for the Creative and Performing Arts.

The staff of the Center for Comparative and Interdisciplinary Studies came from all the major departments of the Humanities. A full range of courses was developed: interdisciplinary courses involving literature, philosophy, history, political science, music, religion, and art; courses in genres, movements and periods of world literature; and topic courses taught on a team-teaching basis. Now, it is possible to concentrate in the Center and develop, with faculty help, an interdisciplinary major.

Much of the literary work of the Center is dependent on knowledge of foreign languages. The network of 15 Dartmouth centers in foreign countries provides a total immersion experience which, among other benefits, yields a remarkable linguistic fluency.

The creative and performing arts were strengthened by the establishment of a center which also served to counterbalance the traditional academic interests of the Humanities faculty. The Drama department represents an interdisciplinary effort with representation from all literature departments plus members of the theater staff.

These developments in combination with plans to regroup or replace the departmentally-based disciplines and to create a special division for experimental interunit courses and programs support the use of an interdisciplinary model for the graduate education program in the Humanities. The model transcends national and generic boundaries among disciplines; moves toward comparative and synthetic studies; creates new fields of study that cut across national and generic lines; builds more complex syntheses of past and present by including history and the concurrent study of continuity and change; emphasizes multilingual competencies and creates multilingual fields of study.

The Humanities division approved the general directions and emphases to be included in the college teaching program: (1) a teaching apprenticeship; (2) replacement of the traditional dissertation with an essay, short monograph, or creative effort of similar dimension; (3) broad comparative or interdisciplinary study; (4) an international emphasis with built-in opportunity for study abroad; and (5) interaction between the creative and performing arts and the academic departments.

Each course of study will be planned to give competence within a central area while simultaneously emphasizing interdisciplinary links. In most cases, a second foreign language will be included. Another important element will be introduction to one or more synthesizing methodologies, such as history, literary analysis and theory, philosophy, linguistics, and phenomenology. The aim is to design a program that is both self-contained and open-ended to create teacher-learners capable of using their skills to open up new areas of learning for themselves and their students.

Since the second principal feature of the proposed DA program in Humanities is its emphasis on teaching, various strategies will be developed. A teaching workshop, already in operation with upper division undergraduates working with master teachers, will be included. The workshop takes place for 5 days before the opening of fall term and for shorter periods prior to winter and spring terms. It consists of intensive teaching sessions for all participants who also play the role of students in a class. Videotapes and other means of critical evaluation are used. Other strategies include concurrent courses in which the student studies and teaches the same material; freshman seminars developed and run by graduate students with faculty supervision; sections of large courses taught by graduate students with exchange visitation of classes, critiques, and discussion sessions among staff members; team teaching; high school and junior college teaching. Graduate students will also be expected to gain experience in planning syllabi, ordering books, counseling, and all other aspects of undergraduate teaching where they have a unique contribution to make. A key element is the opportunity for a substantial number of the graduate students to continue as assistant professors for the usual term of 3 years upon receiving their degrees. This commitment by Dartmouth College is expected to serve as a powerful argument against the contention that the Doctor of Arts is a "second-rate" degree.

Commentary

The Dartmouth College Doctor of Arts proposal is distinctive in a number of ways. The most impressive is the manner in which all recent and contemporary developments are integrated into a coherent unified approach extending from the undergraduate years through graduate education and first professional employment. The predoctoral apprenticeship and postdoctoral experience in teaching at Dartmouth, combined with the breadth and flexibility of academic preparation, provide its graduates with distinct and unparalleled advantages in seeking permanent teaching positions.

Idaho State University

The first graduate students will be admitted to Doctor of Arts degree programs in Biology, English, Government, and Mathematics in the fall of

1971. Of these four, only Biology offers the PhD as well. The programs are sponsored by departments within the College of Liberal Arts under the supervision of the Graduate School. They vary according to the needs of the individual disciplines, but all share common features judged effective in producing qualified undergraduate and community college instructors. Among these elements are: high entrance and candidacy standards, broad rather than specialized training, flexible curricula, attention to trends in higher education, candidacy examinations, and supervised teaching internships.

The objective of the DA program is to emphasize mastery of the tools most often required of undergraduate instructors, especially in the junior college and 4-year institutions in higher education. Both prospective and experienced teacher applicants are expected to have a professional commitment to such instruction along with compatible qualities of mind and temperament. The English program assigns priority in admissions to experienced, successful teachers.

The emphasis in the 3-year program of postbaccalaureate preparation (72 semester hours) or 2-year program of postmaster's preparation (42 semester hours) is on integration of content and method to restore teaching to the heart of the academic establishment. In the implementation of this orientation, the Biology program requires no academic work outside the field. Mathematics encourages broad choices in applied mathematics and an unspecified amount of work in some other field, such as biological, behavioral, or managerial sciences. English requires a basic Humanities component (24 semester hours) in combination with breadth in English (33-34 semester hours). The Government program represents an interdisciplinary approach to broad preparation in the social sciences. Courses in government (equivalent to a strong MA), in economics (9 semester hours), and in sociology (9 semester hours) are integrated through interdisciplinary classes (12 semester hours).

Professional courses in preparation for teaching are variously described in the disciplines. Biology requires a demonstration of competence in pedagogy. Mathematics specifies an education component (6 semester hours). Government requires a course in methodology; English includes a seminar in Teaching Composition and Literature (2 semester hours), and Introduction to Learning Theory and Educational Measurements (3 semester hours).

A supervised teaching internship (9 semester hours) is provided in the third year through agreements reached with community colleges and other institutions without graduate programs. The intern is assigned to one of the cooperating institutions and is also assigned as an observer to at least one standing faculty committee. He teaches under the supervision of a senior faculty member chosen for his skill in teaching. The supervisor receives a stipend from Idaho State University for his services. The intern receives the fellowship stipend from Idaho State and a matching service stipend from the cooperating institution is anticipated. He will be visited by his graduate adviser during the course of the internship. Conferences will be scheduled with the supervisor regarding the progress of the intern.

The Idaho State program is distinguished by the absence of a research project as a part of the general design of the DA degree. The terminal examination appears only when the research and thesis is required. Biology requires a thesis only if the Master of Science degree program did not include one. English accepts substantial, critical scholarly or pedagogical essays or creative work in two seminars in place of a dissertation. Government specifies no research requirement. Mathematics requires a thesis (6 semester hours) which, at minimum, will contribute significantly to mathematics or mathematics education.

Individual departments are responsible for advancing students to candidacy for the DA degree upon successful completion of candidacy examinations which must take place no later than the end of the first year of full-time study beyond the master's degree.

Continuous evaluation of the program is anticipated as it evolves. Follow-up of DA graduates in the field and on the job will determine how they are perceived by employers, colleagues, and students and how effectively they are performing their teaching assignments. Results are expected to provide insights for modification and improvement of the program.

Commentary

Idaho State University received university status less than 10 years ago (1963). Doctoral level work has been available only in Biology (1969). The impetus to develop Doctor of Arts programs derives, in part, from the desire to expand advanced graduate offerings in the directions for which state authorization is possible. Since the University of Idaho has well-established PhD programs in many liberal arts fields, this fact prohibits their development by Idaho State except where a duplication can be justified.

The professional or pedagogical element of the DA program is apparently not fully developed, for it represents a limited conception of the roles and functions of the college teacher. An all-university approach is needed to provide a coherent and distinctive preparation for all teachers regardless of discipline.

The lack of a research project and report with a terminal examination represents a weakness in the general design of the DA program.

Lehigh University

The first students will be admitted in fall 1971 to three graduate programs leading to the Doctor of Arts degree. The programs are designed for students holding the bachelor's or master's degree who wish to prepare for college teaching of business and economics, government or psychology. Standards for evaluation will be equal to those of the PhD in every aspect of the program. Guidelines developed by COGS and AASCU have been followed in planning the 3- to 4-year programs. The DA program will differ from the PhD program in (1) the requirement of a broader distribution of graduate courses in each discipline; (2) a minor area of study for students who wish to have a bidisciplinary preparation for 2-year college teaching; (3) course work and training in interpersonal awareness; (4) a general examination tailored to the DA; (5) a research project dealing with problems of teaching and learning rather than a dissertation; and (6) a supervised internship in college teaching. Emphasis is given to necessity for protecting the quality of the DA degree in not permitting it to become a haven for failures from the PhD program while maintaining sufficient flexibility for legitimate transfers.

The sensitivity core (18 semester hours) is designed to help make the future faculty member a more effective teacher in different educational environments with varied types of students. The focus is on problems of learning, perception, interpersonal relations, group dynamics, role of educational institutions, cultural, urban, and social issues. The sensitivity experience will be intensive in an attempt to foster openness, to improve interpersonal perception on the part of the teacher, and to break down the barriers which inhibit direct and genuine communication between student and teacher. An attempt will be made to develop an appreciation for individual differences in perception and reality construction. The effective college teacher is expected to become aware that in interpersonal relations an individual's perceptions are more a function of his assumptions and expectations than of his grasp of absolute truth. The ability to appreciate the different assumptions underlying perceptions is potentially an invaluable aid, especially for the teacher who will deal with students having very different backgrounds from his own. The techniques used to facilitate this process will be drawn from sensory awareness, Gestalt therapy, and the meditative disciplines. Confrontations between DA candidates and students drawn from the 2- and 4-year colleges participating in the internship will be arranged in an open setting.

Bidisciplinary programs are encouraged with a balanced major sequence (30-36 semester hours) and a coherent minor sequence (12-18 semester hours) in a social or natural science. Only the psychology program requires completion of the MS degree with thesis enroute to the DA. Others employ continuing proficiency examinations prior to second-year study. Students in the DA program in psychology take the same qualifying examination required of all graduate students in the department. They are expected to pass it on the same level as present PhD candidates. The general examinations are given upon completion of the major and minor sequences and are designed for the demonstration of broad competence in these areas.

The internship (6 semester hours) in business and economics consists of an evaluated, supervised part-time teaching assignment in a community or 4-year college with a written report required of the intern. The internship in psychology provides early exposure to college teaching. First experiences will be during participation in Psychology 463, College Teaching of Psychology, and service as a half-time or part-time teaching assistant in courses offered at Lehigh. This is followed by a supervised part-time teaching assignment in a community college or a 4-year college. The intern will have teaching responsibility for one course during each semester of 1 academic year. Progress will be monitored systematically by direct observation of teaching performance and evaluation of syllabus, examinations, and grading procedures. In addition to the teaching internship, students in the DA program in government will also participate in a community organization internship on a part-time basis to sensitize them to a broad range of social and political problems in the larger society.

The research project (6 semester hours) will probably evolve from the internship experiences, and may deal with problems of teaching and learning in the various fields and with new approaches to curriculum development and presentation, such as course structure, curriculum materials, and use of new technologies.

Commentary

Lehigh University Doctor of Arts programs, developed with the PhD programs as a point of reference, are viewed as experimental and subject to change. Distinctive and explicit educational goals established for the DA are to be achieved through the sensitivity core and the encouragement of bidisciplinary academic preparation. Provisions for systematic evaluation through feedback from the sensitivity core and the internship anticipate increasing movement away from the PhD model.

Massachusetts Institute of Technology

The M.I.T. program for college teaching will admit its first graduate students in the fall of 1971. The program coordinates established interdepartmental procedures toward the new goal of providing a small number of PhD candidates with direct preparation for college teaching. Effective teaching at the college level requires mastery of a discipline and demonstrated research competence which many students acquire in the regular PhD programs. However, some students require and wish a thesis in educational or interdisciplinary research which may enhance more directly their subsequent teaching. The new program offers such an opportunity, and also enables students to integrate traditional PhD program activities with supervised teaching and the design and trial of new curricula.

Admission to the program follows the usual M.I.T. procedure for admission to a graduate department. In addition, a statement of interest in the program and career objectives are submitted for evaluation. Degree requirements are based on the individual's interests and career objectives and the requirements of his department. A faculty committee, appointed by the Dean of the Graduate School, will supervise all aspects of the PhD program for each student in accordance with established procedure for interdepartmental graduate programs. One or more members will be from the student's department of registration. A thesis will be presented in educational or interdisciplinary research. The PhD will be awarded through the student's department on recommendation of his faculty committee.

Commentary

M.I.T. represents the only one of these 11 Carnegie-grant institutions to have developed a program for college teaching by retention of the PhD rather than the creation of a new degree of different purpose and design. The essence of the PhD program is retained and integrated with supervised teaching, the design and trial of new curricula, and its culmination in a thesis of educational or interdisciplinary research. Beyond this, the limited descriptive material available does not specify how the expressed goals for the program are to be accomplished. The implication is that the program will consist of appropriate selections made, under the guidance and supervision of the faculty committee, from existing interdepartmental courses and seminars integrated with the traditional PhD.

University of Michigan

The Department of English of the University of Michigan, in the fall of 1971, will enroll its first students in a graduate program leading to a degree of Doctor of Arts and directed toward preparation of English teachers for community colleges. The program is designed primarily but not exculsively for open-door colleges in urban settings whose need for appropriately prepared college teachers is urgent. The open-door policy, combined with the trend toward increased undergraduate enrollment in community colleges by students planning 4-year and graduate degrees, results in a more variable student body than that resulting from restricted admissions. The 2-year college teacher must be prepared to teach students who differ sharply in motivation and in adequacy of their preparation. The teacher must be prepared to respond to students in urban settings who represent the economic, social, cultural, racial, and ethnic diversity found in large American cities.

The role of the English teacher in the community college differs sufficiently from his university counterpart to justify substantive differences in preparation. English teachers are required to deal with all dimensions of student variety in the 2-year colleges. Effective English programs are those developed and taught by teachers who understand and are sympathetic with the aims of community colleges. Graduate preparation must provide sufficient conventional preparation in programs flexible enough to combine old and new materials to fit the unique context of the 2-year institutions.

The Michigan Doctor of Arts program in English is designed to require conventional training in English equivalent to a strong MA plus broader preparation in a subdiscipline pertinent to English programs in 2-year colleges. Newly developed core courses and an internship relate to needs that characterize English in 2-year schools. Breadth of preparation and interdisciplinary work replace research specialization with an emphasis on teaching. Preparation for teaching includes an internship to be served in a community college and a wide range of courses in learning theory, development of language and cognition, pedagogical theory and method, as well as social and psychological problems of the classroom. Research will be devoted to the discovery and evaluation of ideas, materials, and techniques that contribute to learning and to the teaching of English.

Experienced 2-year college and high school teachers are encouraged to enter the program, including those with an MA, MAT, or Master's degree in Education. The typical program requires 3 years beyond the BA or 2 years beyond the MA. The program of studies gives attention to practical and professional needs of college teachers and allows latitude in course elections for individual programs which cross departmental and disciplinary boundaries. The four essential elements are: (1) a core of four courses newly designed to meet professional needs of 2-year college English teachers (15 credits); (2) elective courses in English and cognate fields (27 credits); (3) internship; and (4) research project. Review processes evaluate the progress of the student at each stage of the program. Future plans include the involvement of supervising teachers and other faculty in the 2-year colleges in the review. Upon completion of course work, the student submits a prospectus for his doctoral project. Course work, academic record, and prospectus are reviewed. Written and oral examinations are conducted to determine ability to synthesize prior course work and teaching experience with research aims. Upon completion of the research project, its evaluation, and a total review of the record, an oral defense of the project is required.

The four core courses are designed to prepare 2-year college teachers for the variety of tasks typically demanded in the classroom. They provide: (1) more preparation for teaching composition and developmental reading; (2) attention to variety and practicality in approaches to composition and literature; and (3) acquaintance with the special character of the 2-year colleges and with the kinds of students who attend them. The core courses in English integrate content and method and, wherever possible, will be team taught to allow staff members of the department to bring their special competencies to bear on problems common to the teaching of reading, composition, and literature. The core course in Education will be taught by faculty from the Center for the Study of Higher Education.

Elective courses appropriate to professional goals and a coherent program are chosen in consultation with the adviser to augment substantive preparation in English and to meet individual needs as a teacher. Selections contribute to breadth appropriate to teaching in the humanities. They may also provide specialization useful in the 2-year college, such as American literature and culture, Black dialect and literature, rhetoric and composition, and applied linguistics.

The internship will take place in one of several cooperating community colleges. The candidate will be required to teach, counsel, and perform other characteristic faculty responsibilities. Students without previous teaching experience will intern for two terms. Experienced teachers will serve a shorter internship specially suited to their needs and interests. Interns will be supervised by members of the faculties of participating colleges and by U. of M. faculty. Financial support will be available, and a successful internship will be required for the DA degree. The two-term internship will give the novice experience in teaching a variety of course types with students of varying abilities and interests. An intern may teach for one term in each of two schools paired geographically in some instances. He will be closely supervised and counseled in the first term and given more autonomy in the second term. Periodic reports by the intern and the supervisor will record progress and identify problems. Experienced teachers will ordinarily intern for one term in a situation designed to encourage innovation and research leading to the doctoral project. More detailed plans for structuring, supervising, and evaluating the internship experience are under continuing development with the cooperating institutions.

The doctoral project involves development of personal and professional competence by giving extended treatment to a single problem and by encouraging research in neglected areas of relevance for teaching in the 2-year college. The subject and format will vary with individual needs, but the project must be sufficiently limited in scope to allow completion in one term of full-time work. The format will be flexible enough to permit a single extended product or a series of shorter related papers, the development of a textbook or classroom materials, or visual aids. The project may represent a joint or group effort, particularly those involving classroom experimentation.

The Department of English plans other uses of the Doctor of Arts in the future in programs to meet the needs of 4-year college and university teachers. The major features of the program design apply equally well to the preparation of 2-year and 4-year college teachers.

Commentary

The University of Michigan Doctor of Arts program in English exemplifies the desirable approach to program development advocated in this monograph. Objectives of the program emerge from a careful and detailed analysis of the roles and functions of college teachers in 2-year colleges in urban settings and of the needs of the students to be served in these unique institutions. The program content, integrated with method, is directed toward the achievement of goals with a minimum of structure and maximum flexibility to encourage innovation and imagination.

The usual pattern of a parallel and competitive relationship between the DA and PhD is avoided by a completely new title and program design. Concern about rigor and status is dismissed in the interests of more positive objectives for the DA. The status of the DA degree is expected to come from superior teaching performance in the classrooms over an extended period of time.

The development of a single program of such limited scope represents a different departure from the models of the other institutions.

No mention is made of plans for systematic evaluation of the program according to the educational goals to be achieved.

State University of New York at Albany

Three Doctor of Arts programs in Economics, English, and Physics have been developed and currently await final authorization from the Trustees of State University of New York and Regents of the University of the State of New York prior to admission of students to the programs. Official recognition of the DA degree and criteria for registering DA program proposals stipulated a 7-year experimental period. Restrictive guidelines for structuring the programs require conformance to the following general characteristics: (1) the DA degree is to be offered only in fields allied to disciplines already offering doctoral programs in which all of the facilities and resources exist to assure quality; (2) each program is to consist of required course work, research, internship, and examinations to be completed in 3 years of full-time graduate work; (3) applicants must meet criteria set by a committee authorized by the Graduate School to administer the degree; (4) to qualify for the DA degree, each candidate must demonstrate competence in a subject matter field as demonstrated by examination, demonstrated skill in classroom performance, and competence in methods and practice of research; (5) a teaching internship of not less than one full term, under supervision of his doctoral committee, will offer experience in the classroom to each candidate; (6) enrollments in each program are to be controlled in accordance with professional demand and the aggregate number of DA and other doctoral degrees are not to exceed the average number of doctoral degrees awarded during the period of 1969-71; and (7) provisions are to be made for a follow-up of graduates in their first professional positions to assess the success of the DA curricula in preparing college teachers and to provide the basis for recommendations to the Regents with respect to the DA degree.

The three program proposals in Economics, English, and Physics have been developed within these guidelines and are viewed as appropriate to all levels of undergraduate teaching and eventually to college teacher educators in the university. The fundamental premise underlying the programs is that it is possible to reform graduate education of college teachers by separating from the PhD programs those students who are more interested in teaching than research and offering them a program option that will shorten the time necessary to complete the degree. The DA option is to be regarded as equal in stature with the PhD though directed toward different ends. The 3-year program option consists of 2 years of academic preparation followed by one semester of work on a doctoral research project and one semester as a full-time instructor on the campus of a neighboring 2-year or 4-year college. Academic preparation is broader, in a disciplinary or interdisciplinary area, than the specialization characteristic of the PhD. New courses specially designed, including apprenticeships in college teaching, will be under experimentation in the early years of the program to introduce the student gradually to college teaching. The doctoral research project, initiated in a seminar and completed the following semester, will be more limited in scope than traditional doctoral dissertations and may be concerned with curricular or pedagogical problems in a particular discipline. All candidates will be required to read, interpret, and evaluate the research of others. Classroom performance will be supervised and evaluated by a member of the doctoral committee and a designated faculty member at the interning institution.

All three programs of study require a minimum of 60 credits of graduate courses which are practically identical to those offered for PhD programs in the same disciplines. Approximately 60% is devoted to the broad major and 20 to 25% to cognates, related or supporting courses. The remainder of the credits are assigned to a course in professional education and two courses in a departmentally supervised apprenticeship. The *English* curriculum requires 32 to 38 credits in English consisting of an individually planned program of courses and independent study (20-28 credits) beyond a core of courses in methods of literary study, the history and structure of the English language and a research seminar (12 credits). A supporting field of 12 to 18 credits may cross disciplinary lines and include the history and philosophy of higher education. The *Economics* curriculum requires at least 44 credits in three areas of Economics, including the basic courses in Economic Theory and the research seminar. Two cognate fields are required (12-16 credits), one of which may include courses in professional education. The *Physics* curriculum requires at least 36 credits in the Physics core and Physics specialties and 15 credits devoted to topics traditionally related to Physics or established as important to perspective and understanding.

Professional preparation consists of one course devoted to the history and philosophy of higher education (3 credits), two apprenticeship courses (6-8 credits) or a sequence in Introduction to College Teaching (10-15 credits). In *Economics,* the apprenticeship courses consist of Principles Course Colloquium (4 credits) and Principles of Communication and Learning in Economics (4 credits). Both are seminars open to graduate students assisting in teaching Elementary Economics 100A or 100B, but particularly for those on the DA program. The former includes participation in planning course content and classroom procedure, observation and evaluation of classes, preparing and grading examinations and gradual assumption of the teacher's role in class under guidance. The latter involves a study of innovations in teaching Economics, both curricular and methodological, experimenting with them, and evaluating results. Programmed texts, small group discussions and reports, audiovisuals, economic games, student participation in planning and conducting classes, field surveys, and individual projects are included.

The *Physics* apprenticeship program is required for two semesters of DA students (6 credits), and the seminars are open to all graduate students in master's and PhD programs. Each student works cooperatively and individually with one or two faculty supervisors in preparing and using materials for laboratory and lecture-discussion type activities. Teaching experience will include laboratories, discussion sections, and lectures. These experiences will be discussed in detail during the seminar meetings, analyzing the application of teaching strategy techniques and procedure to the specific subject matter. Experience is provided in methods of evaluating the extent to which stated instructional objectives have been achieved. The role of demonstrations, movies, TV, etc. will be studied, and students will participate in the design, production, and presentation of such aids.

The *English* apprenticeship consists of a sequence of courses combined with colloquia in Introduction to College Teaching: Composition (5 credits), Literary Analysis (5 credits), and Literary History (5 credits). Each course consists of two parts taken concurrently, the practicum and the colloquium. In the first part, the student assists in teaching a course, and will assume a large part of the responsibility for planning, testing, and counseling, as well as for the actual teaching of the class. The colloquium provides the opportunity for students and participating faculty to exchange ideas related to their common professional problems and to have presentations and discussions of papers and reports.

The internship is considered analogous to a medical internship in that it follows formal training in a discipline and represents a period for refining and testing the knowledge and skills of a beginning practitioner under supervision. The intern assumes the full responsibilities of a faculty member in a 2- or 4-year college which has accepted him after reviewing his credentials. The cooperating college will define the duties and pay no less to the intern than to any beginning instructor.

SUNYA is responsible for making internship arrangements and assuring that the intern has a variety of valuable experiences, including teaching beginning and advanced courses, advising students, service on departmental and college committees with due allowance for the adjustment problems of the beginning teacher. Guidance and evaluation are shared by two faculty supervisors, one from SUNYA and one from the interning institution. Regular meetings are scheduled with the intern and other conferences are held as needed. In these consultations, the intern is helped to improve his teaching performance as he understands the source of his difficulties. A systematic record is made of the intern's progress using videotaping if feasible. Classroom visitations by the supervisor should be frequent, preferably each week during the first part of the semester and followed by conferences with the intern. Observations should be recorded on a previously prepared checklist for maximum comprehensiveness. Additional records should cover proficiency in preparing and grading examinations, advising students and serving on committees. Student reactions should also become a part of the intern's record. All of these observations and evaluations should be discussed with the intern.

Criteria for evaluating general performance by the intern include: (1) stimulating interest in the academic discipline; (2) clearly presenting concepts in lectures and discussions; (3) describing structure of the discipline, various sources of information for further study, and views of various representative schools of thought; (4) using library materials and teaching aids; (5) counseling students; and (6) participation in departmental and college activities of the faculty. The two supervisors review the intern's performance record at the conclusion of the internship and recommend a rating of Satisfactory or Unsatisfactory.

The dissertation in *Economics* involves a research paper equivalent to a minimum of one semester's full-time graduate study. The research may be in one of the three Economics fields offered for comprehensive examinations, may be in an interdisciplinary study, or may involve a significant problem of undergraduate study in Economics. In *English*, a student must complete a dissertation which gives evidence of his ability to apply the materials and methods of scholarship to the enrichment of undergraduate teaching. The research should ordinarily grow out of and incorporate the student's work in his research seminar and be capable of completion within 1 academic year. The form may be a written document or a film, kinescope or other graphic presentation of an original approach or method. The *Physics* research project requires one semester full time or a year at half time during which the student independently investigates a special area involving Physics or several disciplines, including Physics, or pedagogical problems. The findings will be presented in a form suitable for publication in a professional journal or for use as a significant part of a course.

Comprehensive qualifying examinations at the end of 2 years of graduate work are designed to serve an individualized integrative function based on the course work actually taken. Oral examinations at the conclusion of the internship test the student's ability to relate his various disciplines to each other and to his teaching.

The SUNYA program proposals have been developed under the leadership of the Graduate School and a Planning Group with representation to reflect the three divisions of the College of Arts and Sciences: Humanities, Natural Sciences and Mathematics, and Social and Behavioral Sciences. Within each division, a special committee guided and passed upon proposals initiated by individual departments. Program proposals were entertained only from departments fully equipped with staff and facilities for doctoral study. Consultation with the School of Education was incorporated and maintained by means of a liaison committee.

Commentary

The SUNYA programs for the Doctor of Arts degree are strongest in the detailed and advanced development of the internship requirement according to the medical internship model. Unlike most programs, no waivers are included for experienced teachers.

The DA degree is considered parallel to the PhD but there appears to be a large overlap especially in the academic areas. Each of the three programs differ somewhat in structure and flexibility and in the content of the apprenticeships in college teaching, while generally conforming to a similar pattern.

The review and evaluation with recommendations to the Regents imply systematic collection of data according to specific criteria which are not specified at this stage.

Stephen F. Austin State University

Program proposals for the Doctor of Arts with majors in biology, English, mathematics, and history represent the first requests to the Coordinating Board of the Texas College and University System for approved and authorized programs above the master's and professional program levels. Several years have been devoted to program planning, with periodic progress reports, under the leadership of the Graduate School and a Doctoral Planning Council, with representation from the departments involved in developing programs. Committees have studied every facet of the program in consultation with graduate students and other faculty at all levels within the institutions and throughout the state. The demands of the job market have been assessed. The most recent revisions of the programs (August 1971) have been submitted for board action.

The DA degree is directed broadly to the preparation of undergraduate teachers with emphasis on breadth. It is viewed as a significantly new degree with its own purpose and objectives rather than a modified PhD. The four programs differ in some respects, but the general program design conforms to the COGS and AASCU guidelines by including the elements of subject matter in broad arrangements, professional preparation for teaching, an internship-externship, and research.

The entire curriculum in each department has been analyzed and reevaluated to correlate undergraduate work with the MA and DA plans, and especially to more nearly correlate the MA with the DA. All departments are emphasizing interdepartmental work in programs requiring about 90 postbaccalaureate or 60 postmaster's degree semester hours. Programs are planned in consultation with the doctoral adviser and approved by the committee. At least one half of the program is devoted to the major field with the remainder to related and supporting areas and to professional preparation for teaching.

History and English have added new Liberal Arts seminars (3 S.H.) that involve team-teaching courses at the undergraduate level. A greater number of courses will be taught in tandem in consecutive classes at both undergraduate and graduate levels. Instructors will have opportunities for informal cooperation in planning materials, methods, and examinations. Mathematics and biology have developed new courses in a program design allowing greater breadth and flexibility in planning individual programs. Several innovative courses have been added in all programs to emphasize a topical or thematic approach to the study of the disciplines. Other graduate departments have been encouraged to design new courses, since all four departments expect their DA graduate students to take courses outside their own departments from a range of choices (12-18 S.H.)

Professional preparation for teaching (21 S.H.) is provided by several closely interrelated aspects, preferably to experienced teachers, and directly pertinent to qualifying and comprehensive examinations. A mandatory course (3 S.H.) designed experimentally by the psychology department presents a survey of contemporary theories of learning and cognition with special attention to the work of Piaget, Bruner, and Kelly and to recent research on experiential deprivation resulting from cultural and sensory loss. Methods and materials courses will be designed and taught in the departments in ways appropriate to the disciplines. A required colloquium series (3 S.H.) introduces the DA student to the university and his program, to a discussion of problems and issues, to opportunities to make presentations, and provides feedback which may lead to changes in the program.

Internship and externship experiences are under development. The student will teach a sophomore or junior level course on the SFA campus during an internship (3 S.H.). He may also engage in some other activity, such as designing and teaching a new course or working in an administrative capacity. Performance will be supervised and evaluated by the major professor and by students when applicable. The English proposal plans a continuing internship during which a student might expect to make a series of six to eight lectures in lower division courses. In other departments the details vary while the general pattern remains the same.

The one-semester externship (6 S.H.) will be served on a junior or senior college campus. During this period, the student will teach a full load and be completely involved in the full range of activities of the department employing him. A variety of teaching situations will be included with responsibility for preparing courses, making tests and counseling students. The work will be supervised by a master teacher where the student is teaching and a subject matter supervisor from Stephen F. Austin State University. Both supervisors and the students taught will evaluate the teaching performance and make constructive criticisms. An in-service seminar for all supervisors of candidates is being considered for six credits.

The doctoral thesis and research project (9 S.H.) involves a topic devoted to the improvement of teaching which can be completed in one semester. The selection may grow out of the internship, externship, or methods and materials courses. The final project may take the form of a film with an account of its production, or a written report of experiments with newly developed courses or materials carried out in the externship or internship.

Proficiency examinations are required in at least one tool subject, approved by the committee, and selected from: bibliography and research, old and middle English, statistics, mathematics of research, computer programming, and foreign languages. Qualifying, comprehensive and final examinations are closely correlated with the emphases and content of the DA program.

Commentary

In the absence of existing doctoral programs, Stephen F. Austin State University represents a departure from the COGS guidelines (1970), one of which states that the DA, at least at the beginning, should be developed and offered by institutions already noted for their high quality doctoral programs. In the absence of competing programs and courses, SFA has been able to bring a fresh approach to the creation of a new degree with a different purpose and different objectives. The planning of the academic element in all programs, especially in English, represents its greatest strength. The innovative approach to the design of new courses and the extensive use of integrative arrangements are the most advanced of any of the models. Interdepartmental and interdisciplinary arrangements, team-teaching, tandem courses, integrative seminars, thematic and topical courses, independent study, and research options permit unusual flexibility for individual program design.

Systematic evaluation of the DA program, although authorized, is not mentioned. Objectives are so broad and general in relation to the roles of the college teacher and the functions of college teaching, that specific criteria are missing for the collection of data to document their successful achievement.

Washington State University

Preliminary proposals in chemistry, mathematics, and speech are under development at Washington State University following approval and authorization of the Doctor of Arts degree for the preparation of college teachers. Chemistry proposes to develop its program to provide more appropriate training for 2-year and 4-year college teachers than is presently available to them under the PhD and EdD programs. The major objective is to provide a broad background in chemistry and related fields consistent with the demands made of college teachers of modern chemistry. Three years of postmaster's work are required for completion of the DA degree. The program design consists of the major field of chemistry and related fields, professional preparation, an intensive internship, and research.

The elements of the program are planned in consultation with the adviser, with the approval of the Advisory Committee and the DA Coordinating Committee to assure a coherent program. A minimum of one graduate course in biochemistry, analytical chemistry, inorganic chemistry, organic and physical chemistry, and 6 semester hours in chemistry laboratory courses are required for a total of 34 semester hours of postmaster's work in chemistry. Twelve semester hours are to be selected in related fields outside of chemistry from biochemistry, biophysics, mathematics, physics, education, economics, psychology, or computer science.

Professional preparation courses are selected to provide the latest research results in the field of education, new teaching methods and techniques in the field, and the philosophy and psychology of pedagogy in general. Thorough preparation for teaching is provided through a teaching assistantship followed by an intensive internship experience. In combination, they provide actual teaching experience of broad and varied nature under supervision and evaluation. The intern will be expected to become familiar with modern techniques and methodologies and with college organization. A report will be required in a manner determined by the Advisory Committee. All or part of the internship may take place at another institution.

Great emphasis is placed on research and the necessity to understand methods in modern chemistry. Modern laboratory techniques and instrumentation and uses of the computer in both teaching and research are included. An important role for research is considered necessary in order to grasp the nature of chemistry and in order to convey it to students. A research dissertation for the DA is required to demonstrate competence and depth of understanding of broad areas of chemistry. It may be presented as a review article for a scholarly journal, a detailed outline for a course, or part of a proposal for a major research project. An oral presentation will be made at a general departmental seminar with an evaluation of the performance.

The same General Preliminary Examinations are given as for the PhD, and they serve as advisory examinations in program planning. A proficiency examination in an appropriate tool subject must be passed, using foreign language, computer programming, or educational tests and measurements. Final examinations consist of the oral examinations which follow the research presentation to the general departmental seminar.

Commentary

The total program is more structured and prescribed than will probably be the case when the development is more advanced and the DA concept more thoroughly integrated. The science fields remain closer to the PhD model, which is attributed to the nature of these disciplines as research disciplines. Integrative aspects are evident in directed study, seminars, and choices and options of research topics and their formats. These provide some flexibility and allowances for individual program planning.

The content of the professional courses and the plans for systematic evaluation of the effectiveness of the outcomes remain undeveloped at this stage.

University of Washington

Two program proposals for the Doctor of Arts degree have been developed in response to the enabling legislation announced by the Graduate School in 1969. The program in German Studies started unofficially in Fall 1969, received authorization and approval October 1970, and will have its first graduates at the end of 1971-72. The program in Physics is currently under review, and will probably be approved in early Fall 1971. Approval covers a 5-year provisional period, at the end of which evaluation and recommendations will be made.

The 1969 institutional guidelines reflected approval of the policy statement of COGS. The DA degree was described as appropriate for meeting the needs of teachers in community and undergraduate colleges. The DA and PhD programs will differ in structure, emphasis, and orientation in most fields.

Departments were invited to review the situations in their disciplines and to state reasons for the desirability of the DA degree. Six elements were to be stressed in the development of programs: (1) broad knowledge of the main field; (2) ability to read, understand, and interpret new research and pedagogical developments appearing in the literature of the field; (3) ability to apply the new research and pedagogical developments in the field for the benefit of college teaching; (4) adequate knowledge of the philosophy of education and in the psychology of learning; (5) an independent investigation of an area in a subject matter field leading to a suitable written dissertation, which may take the form of research on pedagogical problems, a contribution to the teaching of subject matter, or the synthesis of materials with potential for college teaching; and (6) an internship in college teaching for a substantial period of time, such as 1 year, under the supervision of an experienced senior teacher in the subject matter field.

The department of German Studies considered the Doctor of Arts degree to be desirable for the following reasons: (1) to provide better preparation for future college teachers than the conventional PhD; (2) to give the future college teacher the academic education he needs to carry out complex teaching functions successfully which is not provided by the research-oriented MA-PhD; (3) to design a program to meet the needs of undergraduate or community college teachers already in the field which are not met by the PhD; (4) to use the criterion of usefulness for teaching the German language and civilization on the college level in the selection of topics for courses; (5) to emphasize the contemporary relevance of the subject matter in all courses; and (6) to use an approach to demonstrate to future college teachers how to motivate and arouse the interest of students. The program proposal flowing from these objectives is described as no more than an experimental model subject to continuous improvement based upon the critical reactions of students and faculty of the University of Washington and the cooperating institutions. The proposed Doctor of Arts program represents a continuation at the doctoral level of a second Master of Arts degree program for experienced teachers initiated in 1966.

Two postbaccalaureate tracks in German Studies are differentiated according to eventual goal: MA I leads to the PhD, and MA II leads to the DA. Both require a study period of 2 years or 54 post-MA credits, written and oral examinations at the end of the second doctoral year, and a third year for the dissertation. By the end of the second year and prior to the internship in the third year, the DA candidates must also provide evidence of successful teaching experience.

Broad knowledge of the main field of German Studies is interpreted to mean linguistic proficiency, the application of linguistics in the classroom and the literature of the field within the broad context of German civilization. The future college teacher must acquire a near-native mastery of the language, which means continuation of training in German conversation, composition, and stylistics at the graduate level, whereas the research specialist can publish and lecture in English. For good teaching, the fundamental contributions of modern linguistics to the teaching of foreign languages cannot be ignored–unlike the university teaching of German literature. The college teacher of German is expected to familiarize his students with the political, social, and intellectual history of Germany as well as German art and music. A comprehensive picture of German culture and its historical background and relationship among these fields requires the college teacher to have a much broader knowledge of his subject matter field and related areas than required for the PhD. The main emphasis rests with courses and seminars in German literature and civilization, some of which may be newly designed to conform to this comprehensive approach and to relate to contemporary times. The method of interpretation is not purely esthetic, but includes the historical and social significance of literary works, their authors, and their points of origin.

Professional preparation for college teaching is considered to be just as important as language proficiency and linguistics. An array of courses has been identified to provide the latest research results in education, to identify new teaching methods in the field, and to give a background in the philosophy and psychology of education in general. Special consideration is given to practical pedagogical training at all undergraduate levels. In contrast to the teaching assistantships normally held under the PhD, the DA program will provide a full range of pedagogical preparation. Teaching experience is acquired, not only in advanced composition and conversation, but also in introductory literature courses on the junior and senior levels. An internship occurs during the third doctoral year of graduate studies.

During the first 2 doctoral years, opportunities are available to acquire teaching experience on the lower division level. Classes are supervised by departmental coordinators and by senior staff members who visit classes at regular intervals. After each visit, weaknesses and strengths are discussed in conference, and a written evaluation of the teaching is added to the candidate's file. Training is intensified during the third doctoral year in cooperation with colleges in the state. Under supervision and with guidance from experienced staff members, candidates are trained for teaching assignments in junior and senior level college courses. The internship begins with observation of third-year courses in conversation and literature. After each class there is opportunity to discuss the observations of the mentor's teaching techniques. Gradually, limited assignments are given in the preparation of topics for conversation, hourly teaching schedules, and examinations. After the introductory period, the intern may do tutorial work and assume responsibility for the class for short periods of time. Toward the end of the term, the intern has more independence to conduct class sessions by himself. Finally, he designs an alternate course outline with his own approach and materials. The same procedure is followed when the intern is introduced to fourth-year courses in conversation and literature in the next term.

The dissertation is not devoted exclusively to literary or philological analysis, but reflects, in more limited scope, combined interests in the fields of German civilization and education by demonstrating a meaningful connection with future teaching. A series of thesis seminars provide competent supervision in the development of dissertation problems and consultation about the written report, which is to be completed within 1 year after the examinations following the course work.

The German Studies program represents an experiment which will require close supervision for several years. Evaluation of the program will make use of "feedback" from graduate students, teaching faculty, and supervising faculty in other institutions. Frequent and frank discussions are expected to provide a source for program improvement. In addition, a follow-up of graduates of the program in their first teaching assignments should demonstrate the effectiveness of the DA programs in providing appropriate preparation.

The Department of Physics considers the Doctor of Arts desirable to provide professional training for careers principally devoted to college teaching rather than research. The basic rationale for the proposal stems from the conclusion that the department can no longer provide effective training for both areas of performance in teaching and research in one program. Two majors with clearly defined areas of professional specialization require different programs of preparation. Physics education and teaching are rapidly attaining such levels of knowledge and specialization as to require a full-time commitment in order to: (1) develop subject matter competence and keep up with the voluminous current literature in science and education; (2) develop curriculum materials and more effective teaching techniques for skill and sensitivity in the classroom; (3) test and evaluate new ideas proposed by others; (4) maintain a broad knowledge in science beyond one's own special field; and (5) cultivate a grasp of history, philosophy, and the humanistic and cultural facets of scientific thought.

The Physics program is designed to prepare college teachers for undergraduate teaching in universities (especially courses for non-scientists, future teachers, doctors, and other preprofessionals), in the 4-year colleges which focus on effective undergraduate education, and in the 2-year colleges with students of wide ranging abilities and diversified programs. The initial stages of the PhD and DA in Physics will be essentially the same, and candidates will be expected to meet the same standards. Course materials of the first year will be basic physics. Significant differences follow in the second year.

The core curriculum requires knowledge in basic physics as covered in graduate courses in Classical Mechanics, Electricity and Magnetism, Quantum Mechanics, Statistical Mechanics, and Thermodynamics. A breadth requirement may involve a series of survey courses within physics or fairly advanced knowledge in some related field, such as geophysics, biophysics, chemistry, or astronomy. A reasonable level of literacy is expected in such fields as the history and philosophy of science, the role of science in society, and developments in education and theory of learning. Preliminary examinations and the general parts of the qualifying examination are taken to demonstrate mastery and broad knowledge.

A number of suitable professional courses already available in Educational Psychology, Curriculum and Instruction, and Higher Education have been identified for selection in consultation with advisers and supervisors. Teaching in an undergraduate laboratory is required in addition to the internship. Students will have opportunities during a 2-quarter supervised internship to participate in the design of courses, including selection of materials, textbooks, outside assignments, and examinations. The intern is expected to give a significant number of lectures (1 a week). Supervising faculty are to be in attendance and available for conferences to evaluate and record the teaching performance. Some internships may be at cooperating institutions in the state and supervised by experienced faculty there. An Intern Course and a seminar on problems of physics education are expected to accompany the internship experience eventually.

Research is de-emphasized in the DA program in Physics, although students are encouraged to acquire some research experience. Thesis work is determined jointly by the student, adviser, and supervising committee and usually oriented toward teaching. Education-oriented dissertations may involve: (1) design of an upper division course, selection of materials, writing course outline, examination, etc., the teaching of it, and the results; (2) development of important laboratory experiments; (3) analysis and critique of some basic concepts in Physics; (4) a review article; or (5) in depth study of an issue in an area of overlap between science, technology, and society.

Commentary

The University of Washington Doctor of Arts programs appear to be longer than those of most other institutions. The German Studies program is parallel to the PhD program beyond the baccalaureate level. Master of Arts II for experienced teachers is required for admission to the DA program.

The Physics program, on the other hand, is parallel to the PhD program only beyond the master's level. In this and other ways, it is evident that the DA concept is more thoroughly integrated into the German Studies program than the Physics program at this stage of their development.

The specific requirements for Physics are more prescribed than for German Studies, a characteristic commonly found in the science programs. As a result, there is less flexibility for individual program planning. Opportunities for interdepartmental course work and for independent study allow for greater breadth and integration in German Studies than in Physics.

Further development of professional preparation courses seems desirable to make a more coherent program. Some courses should be specified as designed to serve the objectives of the DA program in certain ways.

Evaluation and recommendations are expected at the end of a 5-year provisional period. Systematic evaluation will require the clarification of specific educational objectives about which data will be sought to determine their successful accomplishment.

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A thorough-going analysis of the process of teaching and of teaching methodology. Extended treatment of discussion, recitation and lecture, role playing, questioning, observing and evaluating.

Jencks, Christopher, & Riesman, David. *The academic revolution.* Garden City, N.Y.: Doubleday, 1968.

Represents a sociological and historical analysis of American Higher Education. Begins with a general theory about the development of American society and American colleges. Discusses different species of colleges and their relationships to the various interest groups that founded them. Describes the past and future of these relationships and tries to evaluate them.

Johnson, B. Lamar. *Islands of innovation expanding: Changes in the community colleges.* Beverly Hills, Calif.: Glencoe Press, 1969.

Reports a great variety of new programs, which have not been evaluated as to outcomes, but which are suggestive of trends. Describes cooperative work-study, programmed instruction, audio-tutorial, simulation, developmental teaching, students as teachers, independent study, and many related aspects. Warns against indiscriminate substitution of "new for old."

Kauffman, Joseph F. (Chm.) *The student in higher education: Report of the Committee on the Student in Higher Education.* New Haven, Conn.: The Hazen Foundation, 1968.

The primary concern of the committee was to gain more perspective on the various social and psychological influences which shape students' attitudes, interests, and activities. Two major themes predominate: (1) the college as a major influence on development of student's personality; responsibility for the quality and direction must therefore be assumed; and (2) even the central task of guiding the intellect cannot be well done unless there is a realization that this takes place within the context of emerging adulthood.

Keeton, Morris, & Associates. *Shared authority on campus.* Washington, D.C.: American Association for Higher Education, 1971.

A valuable report of a task force on faculty authority and on the context within which governance takes place. Recommendations are made as to how the sharing of authority can be effective.

Koen, Frank. The training of graduate student teaching assistants. *Educational Record,* **49**, Winter 1968, 92-102.

Review of some of the most frequently practiced training procedures, focusing particularly on the major teacher-producing institutions. Reports a study of programs for teaching assistants in 42 universities. Observations are made concerning the wide divergencies in approaches to this important but neglected aspect of education.

Koen, Frank, & Ericksen, Stanford. *An analysis of the specific features which characterize the more successful programs for the recruitment and training of college teachers.* Ann Arbor: Center for Research on Learning and Teaching, University of Michigan, 1967.

A study of programs for the training of teaching fellows in 105 departments in 20 universities. A summary of this study was presented in *Memo to the Faculty,* No. 21, March 1967, as well as being available at the Center.

Kruskal, William (Ed.) *Mathematical sciences and social sciences.* Englewood Cliffs, N.J.: Prentice-Hall, 1970.

The Survey of the Behavioral and Social Sciences provides a comprehensive review and appraisal of these rapidly expanding fields of knowledge and constitutes a basis for an informed, effective national policy to strengthen and develop these fields even further. Reports include studies of anthropology, economics, geography, history as a social science, political science, psychology, psychiatry as a behavioral science, sociology and the social science aspects of statistics, mathematics and computation. Illustrates a rare development at the interface of the disciplines with true interaction between the mathematical and social sciences directed toward problems arising in the social sciences which motivated new theories and approaches in the mathematical sciences.

LaFauci, Horatio M., & Richter, Peyton E. *Team teaching at the college level.* Elmsford, N.Y.: Pergamon Publishing Co., 1970.

The authors describe a relatively new approach to college teaching which they believe represents one more alternative for creating an effective learning environment. They present the nature and scope of a number of selected team-teaching programs, how such programs can be administered, the potential impact on a developing curriculum, the role of faculty and students, and finally, the limitations and future prospects.

Lee, Calvin B. T. (Ed.) *Improving college teaching.* Washington, D.C.: American Council on Education, 1966.

The volume consists of essays and background papers concerned with questions about college teaching. Although intended primarily for academic administrators, the material can be read profitably by classroom teachers and subject matter specialists.

Less time, more options: A special report and recommendations by the Carnegie Commission on Higher Education. Hightstown, N.J.: McGraw-Hill, 1970.

The report examines and makes recommendations concerning the general flow of students into and through the formal structure of higher education in the United States and the key role played by degrees in this flow. Recommendations call for basic changes in the pattern and an increase in effective options for students.

Madison, Peter. *Personality development in college.* Reading, Mass.: Addison-Wesley, 1969.

Prepared in preliminary edition at the Institute for Study of Human Problems (Nevitt Sanford, Director). The emphasis in this voluminous study is on the student himself. Case studies, resultant theoretical ideas, diaries, interviews and autobiographical materials serve as a springboard for new concepts and illustrations of theory.

Mager, Robert. *Preparing instructional objectives.* Palo Alto, Calif.: Fearon Publishers, 1962.

A valuable approach to the task of goal specification viewed as an unavoidable practical problem requiring solutions. An important aid for prospective college teachers.

Mann, Richard D. *The college classroom: Conflict, change and learning.* New York: John Wiley and Sons, 1970.

This book presents a study of the events of the college classroom, especially the interpersonal and emotional events. It expands the focus beyond the content of education to the teacher-student interaction often ignored. It explores the teacher's role from a new and broader perspective, the diversity of students more sensitively, and the internal workings of the college classroom more specifically.

Martin, Warren Bryan. *Conformity.* San Francisco: Jossey-Bass, 1969.

The author investigates whether diversity actually exists in American higher education and finds it in form and organization but not in purposes of education, criteria for excellence, appropriate and inappropriate roles for faculty, administration and students or in satisfactory educational experiences. He finds some forces which might bring about more diversity and sees the cluster college, or college within a college, as the most promising and potentially innovative idea currently.

Mayhew, Lewis. *Innovation in collegiate instruction–strategies for change.* SREB Research Monograph, No. 13, 1968.

This monograph discusses the need for innovation in college teaching and describes some experiments with new methods that have been judged successful. Definite suggestions are made for motivating change.

McGrath, Earl J. *Should students share the power?* Philadelphia, Pa.: Temple University Press, 1970.

The author discusses the pros and cons of student participation and the techniques for achieving student involvement. He concludes that where students have been fully involved in academic government, they have typically discharged their responsibilities effectively. Experience suggests that a governmental structure which assembles all the constituent parties in some organization is better than one which provides for reconciliation of opposing views after the various groups have taken independent action.

McKeachie, Wilbert J. Research in teaching at the college and university level. In N. L. Gage (Ed.), *Handbook of research on teaching.* Chicago, Ill.: Rand McNally, 1963.

Chapter 23 provides an excellent and detailed summary of instructional research.

McKeachie, Wilbert J. Significant student and faculty characteristics relevant to personalizing instruction. In W. J. Minter (Ed.), *The individual and the system.* Boulder, Colo.: WICHE, 1967.

Reviews the research related to evaluation of good teaching and sees the greatest significance in the studies being conducted by Richard Mann and associates. The research is directed toward understanding the development, over a term, of the student-teacher relationship in the classroom and conference.

McKeachie, Wilbert J. *Teaching tips: A guide for the beginning college teacher.* Lexington, Mass.: D. C. Heath, 1969.

An especially valuable source of information for the beginning teacher. Uses a practical approach to such problems as preparing for a course, selecting reading lists, designing classroom arrangements, the use of various teaching methods and appropriate selection of media, and many other issues related to examining, grading, motivating and evaluating the outcomes.

McKeefery, William James. *Parameters of learning: Perspectives in higher education today.* Carbondale, Ill.: Southern Illinois University Press, 1970.

Describes learning somewhat differently. Seven categories of learning experiences, the outposts of the learning situations and the patterns found in higher education are analyzed in such a way as to clarify current perspectives.

Moore, William, Jr. *Against the odds.* San Francisco: Jossey-Bass, 1970.

The author describes the inadequacies characteristic of the educational provisions for "disadvantaged" or "high risk" students in the community colleges. He is critical of teachers, administrators and the curricula. All fail to serve the wider range of student population which may have shorter term goals calling for more emphasis in the curricula on "doing" than on "knowing."

Morris, William (Ed.) *Effective college teaching: The quest for relevance.* Washington, D.C.: American Council on Education for AAHE, 1970.

Covers current trends in college teaching and critically reviews methods now in use. Teaching strategies characteristic of the different disciplines are presented in ways of special interest to the beginning teacher.

Nowlis, Vincent, Clark, Kenneth E., & Rock, Miriam. *The graduate student as teacher.* Washington, D.C.: American Council on Education, 1968.

The report identifies some of the problems and issues associated with instruction by graduate students and presents examples of what may be termed either proper or improper use of graduate students. Makes a valuable contribution by developing the principles which should characterize effective graduate student teaching programs.

Otto, David. A study in participative management: The teaching assistant. In Cameron Fincher (Ed.), *The challenge and response of institutional research.* Atlanta: The Association for Institutional Research, 1969.

Reports a general inquiry into department management systems involving nine departments and 378 botany and sociology teaching assistants at the University of Michigan. Focuses on who participates in departmental decision-making processes. Correlations between participation, number of hours worked, and satisfaction are reported.

Perry, William G., Jr. *Forms of intellectual and ethical development in the college years.* New York: Holt, Rinehart and Winston, 1968.

A study conducted at Harvard University investigated change in students' accounts of their "unfolding views" while in college. The results run counter to the idea that students, at entrance to college, have reached the maturity of their intellectual powers as some college teachers and developmental psychologists have believed.

Pullias, Earl V. *A search for understanding.* Dubuque, Iowa: William C. Brown Co., 1965.

This book of essays is a partial reflection of one man's search for the meaning of life and its relation to the education of man. Previously published pieces are assembled in one volume for students and colleagues of the author.

Pullias, Earl V., Lockhart, Aileene, et al. *Toward excellence in college teaching.* Dubuque, Iowa: William C. Brown Co., 1964.

A reflection on experiences of several decades of teaching and an indication of which part of that experience is most important. Chapters 2 and 4 are especially pertinent.

Pullias, Earl V., & Young, James D. *A teacher is many things.* Bloomington, Ind.: Indiana University Press, 1968.

A personality-oriented study of the perennial problems of the teacher in respect to his teaching and to his relations to the students. The authors identify and analyze more than twenty roles and activities which extend understanding of what the teacher is and does.

Reif, Frederick. Science education for nonscience students. *Science,* **164**, May 1969, 1032-1037.

A detailed description of a new and highly successful interdisciplinary effort at Berkeley to acquaint college students with modern science.

Robinson, Lora H. Improving college teaching through faculty selection and evaluation: A review. In *Currents '70* from The ERIC Clearinghouse on Higher Education, (2), July 1970.

Reviews the literature in support of the proposition that college teaching can be improved through faculty selection and evaluation for retention. Since the quality of teaching depends on many factors, improvement of instruction can and should be approached from several angles.

Roose, Kenneth. Fifty top-rated institutions. Their role in graduate education. *The Research Reporter* of The Center for Research and Development in Higher Education, University of California, Berkeley, **6**, 1971, 7-8.

A paper presented at a conference on "Changing Patterns in Graduate Education," describing the present quality of graduate instruction as scholars across the country perceive it.

Sanford, Nevitt (Ed.) *The American college: A psychological and social interpretation of higher learning.* New York: John Wiley and Sons, 1962.

An extremely valuable source book for all interested in American higher education. Chapters especially relevant are in Part V, Student Performance in Relation to Educational Objectives. Wilbert J. McKeachie: Procedures and Techniques of Teaching: A Survey of Experimental Studies, pp. 312-364; Joseph Katz: Personality and Interpersonal Relations in the College Classroom, pp. 365-395; Joseph Adelson: The Teacher as a Model, pp. 396-417; Joseph Katz and Nevitt Sanford: The Curriculum in the Perspective of the Theory of Personality Development, pp. 418-444.

Sanford, Nevitt. *Where colleges fail.* San Francisco: Jossey-Bass, 1967.

Sanford argues that learning depends upon development of the whole personality, not just on knowledge absorbed. This means that administrators and faculty members have certain special responsibilities for directing student development. Chapter 15 discusses where the neglected art of college teaching fits within this context of responsibility.

Sawin, E. J. *Evaluation and the work of the teacher.* Belmont, Calif.: Wadsworth Publishing Co., 1969.

Shows the place of evaluation in many aspects of planning and operating a teaching-learning process. Choices at the most critical times should not only be brought to the level of conscious action but subjected to controlled procedures.

Shulman, Lee S., & Keislar, Evan (Eds.) *Learning by discovery: A critical appraisal.* Chicago: Rand McNally, 1966.

Report of a conference on learning by discovery held to clarify the issues involved, to review what is known about this subject, and to suggest ways of extending knowledge in this field.

Solomon, Roger Brunley. Preparation for teaching in two year colleges. *Improving College and University Teaching,* **16**, Spring 1968, 125-127.

The author describes the characteristics of community college student populations, the qualities necessary for successful teaching of these students, and a recommended program of preparation for fulfilling the objectives described. Special emphasis is given to an internship program to be used as a means of bridging the gap between the theories of the chosen academic disciplines and the practicalities of the classroom.

Spurr, Stephen H. *Academic degree structures innovative approaches.* New York: McGraw-Hill, 1970.

The author reviews American degree structures and the principles applying to their development. An analysis of origins and current uses provides the basis for synthesis and recommendations. The author maintains that there is no reason the PhD cannot be offered as a 3-year or 4-year program turning out researchers, teachers, or professionals. The question is whether faculties of individual departments will face up to the multivariate careers of the products of their doctoral programs and build in the necessary flexibility. Critics maintain they cannot or will not since they have not for these many years.

Thornton, James W., & Brown, James W. (Eds.) *New media and college teaching.* Washington, D.C.: Department of Audiovisual Instruction, AAHE, 1968.

Authors report instructional materials to be used with the new media must be developed. Faculty development programs are essential if the media are to be used effectively.

Tyler, Ralph W. *Basic principles of curriculum and instruction.* Chicago: University of Chicago, 1969.

A concise and clear presentation of the five basic questions to be posed for curriculum building and the design and organization of learning experiences.

University of Michigan. *Memo to the faculty.* A series prepared by the Center for Research on Learning and Teaching. Ann Arbor: University of Michigan.

Relevant issues: No. 21, March 1967, Training Prospective College Teachers; No. 26, January 1968, Student Stress and Student Development; No. 37, October 1969, Learning and Teaching Process.

Vaughn, Richard P. Teaching the teachers. *Liberal Education,* **55**, October 1967, 417-420.

Description of a faculty seminar on teaching and how it can aid personal relations, improve performance and contribute to career development and continuous growth.

Wahlquist, John T. *Innovations in the preparation of college teachers.* Bloomington, Ind.: Phi Delta Kappa, 1970.

This booklet attempts to supply information regarding innovative practices in the preparation of college teachers. It is directed to both prospective college teachers, who must select institutions and programs, and to administrators too busy to investigate developments for themselves.

Walters, Everett. Trends toward a degree for college teachers. *Educational Record,* **48,** Spring 1967, 132-137.

Thoughts on a degree for college teachers and objections to the truncated PhD plans for resolving the problem.

Walters, Everett, & Ness, Frederic. The PhD–new demands, same old response. *Saturday Review,* January 1966, 62-63, 75-76.

A discussion of the inflexibility of the graduate school and some proposed alternate graduate degree programs for college teachers.

Ward, Pearl L. Two views of higher education. *Improving College and University Teaching,* **16,** Autumn 1968, 228-229.

The author contrasts the emphases reflected in the views of Clark Kerr in The Uses of the Multiversity, and Nathan Pusey in The Age of the Scholar. These different views are reflected in the philosophy and objectives of various institutions and determine the importance attached to the function of college teaching and to programs designed for its preparation.

Weinstein, Gerald, & Fantini, Mario D. *Toward humanistic education.* New York: Praeger Publishers for the Ford Foundation, 1970.

A new approach for a curriculum of affect to focus, not primarily on content and skills, but on student concerns. The authors present a model to guide the selection of appropriate materials and procedures.

Wilson, Robert C., & Hildebrand, Milton. *Effective university teaching and its evaluation.* Berkeley, Calif.: University of California, Center for Research and Development in Higher Education, 1970.

The authors seek to characterize effective performance and to provide an acceptable, satisfactory basis for the evaluation of teaching.

Wittrock, M. C., & Wiley, David E. *The evaluation of instruction: Issues and problems.* New York: Holt, Rinehart and Winston, 1970.

The focus in evaluating learning is upon individuals and not upon differences among individuals. Presents theory of evaluation, instruction, contextual and criterion variables, and methodological issues.

Wolff, Robert Paul. *Ideal of the university.* Boston, Mass.: Beacon Press, 1969.

Argues for a program of preparation for college teaching in which there is "no dissertation, no make-believe original contributions to scholarship. Students should take the degree, as law and medical students do, in order to prepare themselves for a professional career, namely, college teaching."

Wortham, Mary. The case for a Doctor of Arts degree–A view from junior college faculty. *AAUP Bulletin,* **53,** December 1967, 372-377.

Speaking for junior college teaching faculty, the charge is made that the traditional design of advanced degrees does not serve the needs of the expanded profession of college teaching. No commensurate effort has been made to match excellence in research with strategies of effective learning for contemporary students. The California Junior College Faculty Association resolved to request a rigorous and scholarly degree in subject fields at the college level to better serve college teaching of undergraduates.

Zuckerman, David W., & Horn, Robert E. *The guide to simulation games for education and training.* Cambridge, Mass.: Information Resources, Inc., 1970.

Includes "A Basic Reference Shelf on Simulation and Gaming" by Paul A. Twelker. A practical book on a clear theory and its utility. Many specimen games are described to give the teacher a widened concept of what teaching may encompass.

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